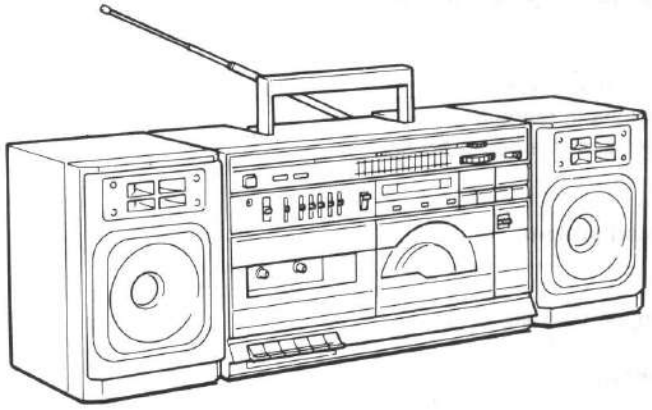
# CFD-444L

# SERVICE MANUAL

*AEP Model*



| | |
|---|---|
| Model Name Using Similar Mechanism | CFS-3000L |
| Tape Transport Mechanism Type | MF-D444-75D |

## SPECIFICATIONS

**CD player section**

System: Compact disc digital audio system

Laser diode properties: Material: GaAlAs
Wavelength: 780 nm
Emission duration: Continuous
Laser output: Max 0.4 mW *
* This output is the value measured at a distance of about 1.6 mm from the objective lens surface on the optical pick-up block.

Frequency response: 20–20,000 Hz $\pm\frac{1}{3}$ dB

**Radio section**

Frequency range: FM: 87.6–108 MHz
MW: 530–1,605 kHz
LW: 150–285 kHz
SW: 6–18 MHz

Antennas: FM/SW: Telescopic antenna
MW/LW: Built-in ferrite bar antenna

**Tape recorder section and general**

Recording system: 4-track 2-channel stereo

Fast winding time: Approx. 1.5 min. with Sony cassette C60

Frequency response: 80–10,000 Hz

Speakers: Full-range speakers: 10 cm dia., cone type
Tweeter: 2 cm dia., ceramic type

Peak music power output: 22 W (11 W + 11 W)

Inputs: Line input jacks (phono jacks)—2
Sensitivity 0.3 V
Input impedance 47 kilohms or higher

Outputs: Headphones jack (stereo minijack)
For 8–32 ohms impedance headphones
CD output jacks (phono jack)—2
Load impedance 10 kilohms or higher
Rated output 1.4 V rms at load impedance 47 kilohms

Power requirements: 220 V AC, 50 Hz
DC 12 V, 8 size D (R20) batteries

Power consumption: AC 40 W

Battery life

| Batteries | Sony SUM-1 (NS) | Sony Alkaline AM1 |
|---|---|---|
| FM recording | Approx. 12 | Approx. 17 |
| Disc recording | Approx. 3 | Approx. 3.5 |

(hour)

Dimensions: 674 × 221 × 177 mm (w/h/d)
($26\frac{1}{2} \times 8\frac{2}{3} \times 7$ inches)
incl. projecting parts and controls

Weight: 6.2 kg (13 lb 11 oz)
incl. batteries

Supplied accessory: AC power cord (1)

## FM/MW/LW/SW COMPACT DISC CASSETTE-CORDER

SONY®

TC

MICROFILM

# CFD-444L

SONY
# SERVICE MANUAL

*AEP Model*

# CORRECTION-1

File this correction-1 with the service manual.

**Page 45**

| | (Incorrect) | | | | | (Correct) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| C705 | 1-130-483-00 | MYLER | 0.01MF | 5% | 50V | | none | | | |
| C711 | 1-130-483-00 | MYLER | 0.01MF | 5% | 50V | | none | | | |
| C712 | 1-124-963-11 | ELECT | 33MF | 20% | 16V | 1-124-469-11 | ELECT | 220MF | 20% | 6.3V |
| C713 | 1-130-483-00 | MYLER | 0.01MF | 5% | 50V | | none | | | |

**Page 46**

| | (Incorrect) | (Correct) | |
|---|---|---|---|
| C795 | none | 1-102-110-00 | CERAMIC 220PF |

**Page 47**

| | (Incorrect) | (Correct) | |
|---|---|---|---|
| RS701 | none | ⚠1-532-839-21 | LINK, IC |

**Page 48**

| | (Incorrect) | | (Correct) | |
|---|---|---|---|---|
| R701 | 1-249-433-11 | (RF BOARD) . . . CARBON 100K 5% 1/4W | 1-249-433-11 | (RF BOARD) . . . CARBON 22K 5% 1/4W |

**Page 49**

| | (Incorrect) | | (Correct) | |
|---|---|---|---|---|
| RV701 | 1-237-481-11 | RES, ADJ, METAL GLAZE 22K | 1-230-895-11 | RES, ADJ, METAL GLAZE 20K |
| RV702 | 1-237-482-11 | RES, ADJ, METAL GLAZE 47K | 1-230-608-11 | RES, ADJ, METAL GLAZE 50K |

9-952-980-91

Sony Corporation
Audio Group

English
88A0547-1
Printed in Japan
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SECTION 1
OUTLINE

# FEATURES

**The CFD-444 is a cassette-corder equipped with a FM/AM tuner, compact disc player, and the separate speakers.**

**CD player section**
- **Repeat play** to repeat one or all the selections.
- **Shuffle play** to play the selections in random order.
- **Program play** to play the selections in a desired order.

**Cassette deck section**
- **Synchronized CD recording start system**

**General**
- **5-band graphic equalizer** to adjust the tone quality to your preference.
- **Power output of 4W+4W** (measured at the FTC regulation)

## NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

**SAFETY-RELATED COMPONENT WARNING!!**

**COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.**

## CAUTION

- Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

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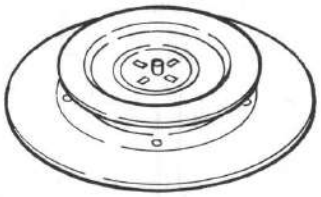
### Chuck Plate Jig for Repair

When repairing the CD section, use the chuck plate jig in order to play a disc without using the CD cover.

Chuck plate jig part No.: X-4918-255-1

Chuck plate jig component parts:

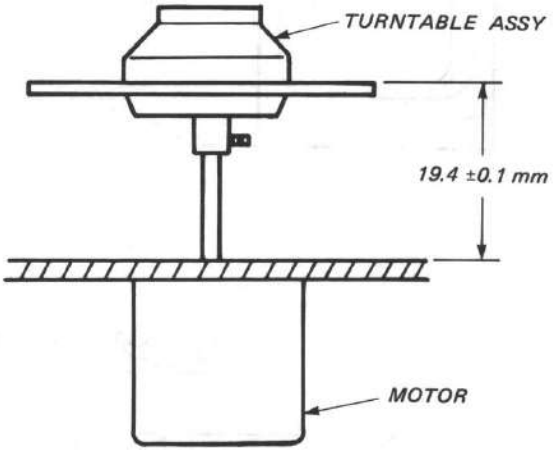


### Notes on Spindle Motor Repairing

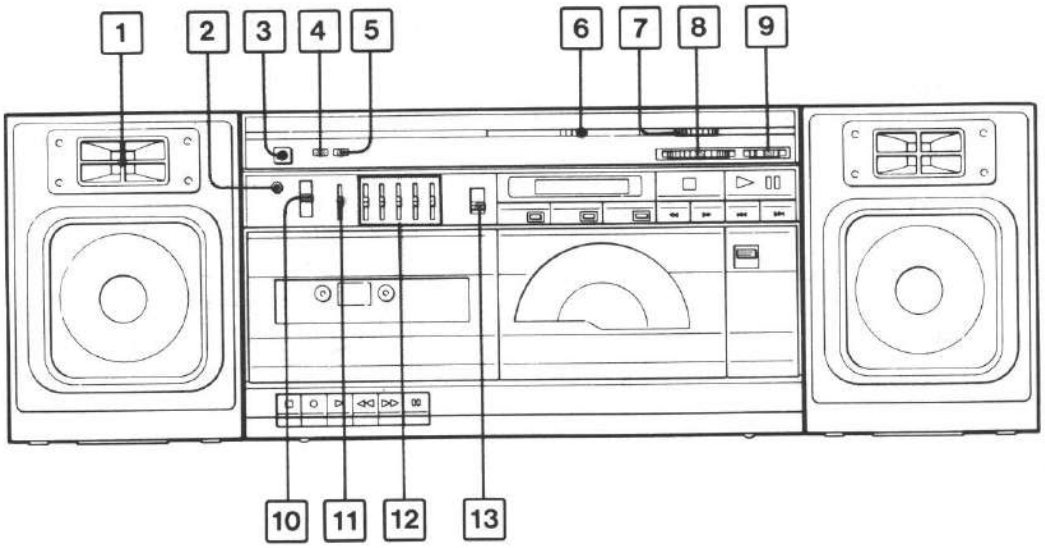
The spindle motor (M702) used in this set is pressed into turntable assy, but the repair parts are supplied separately.

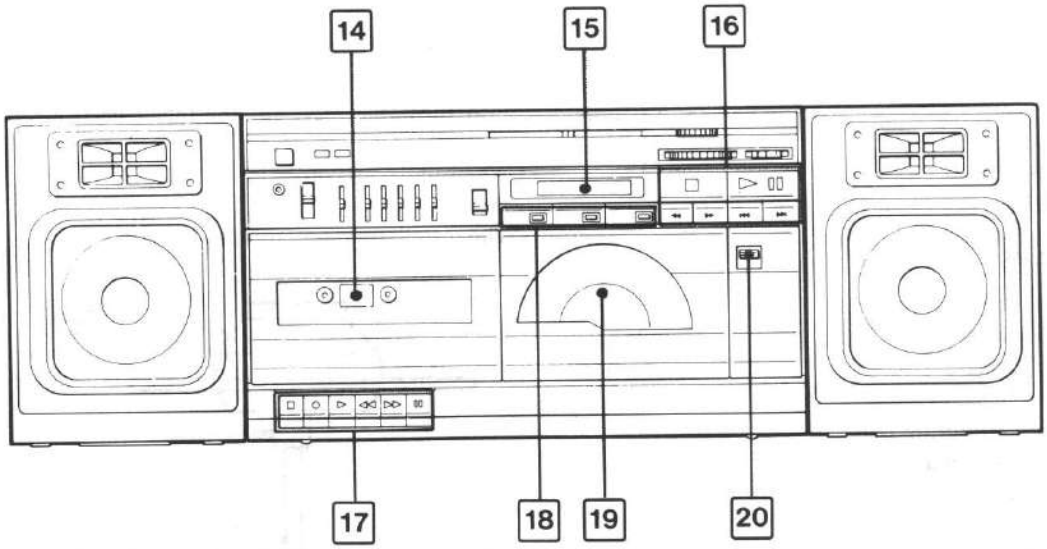
When replacing, order both turntable assy and spindle motor.

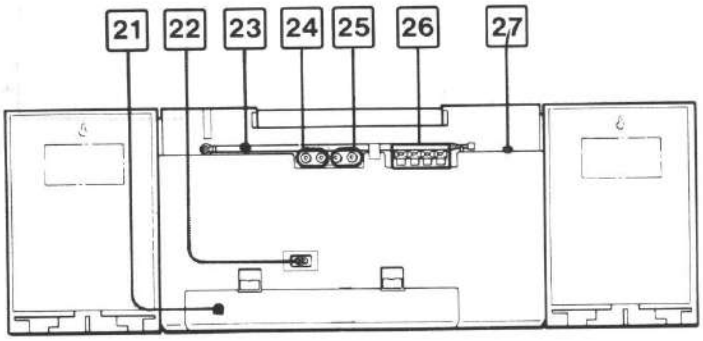
The installation dimension is as shown below.

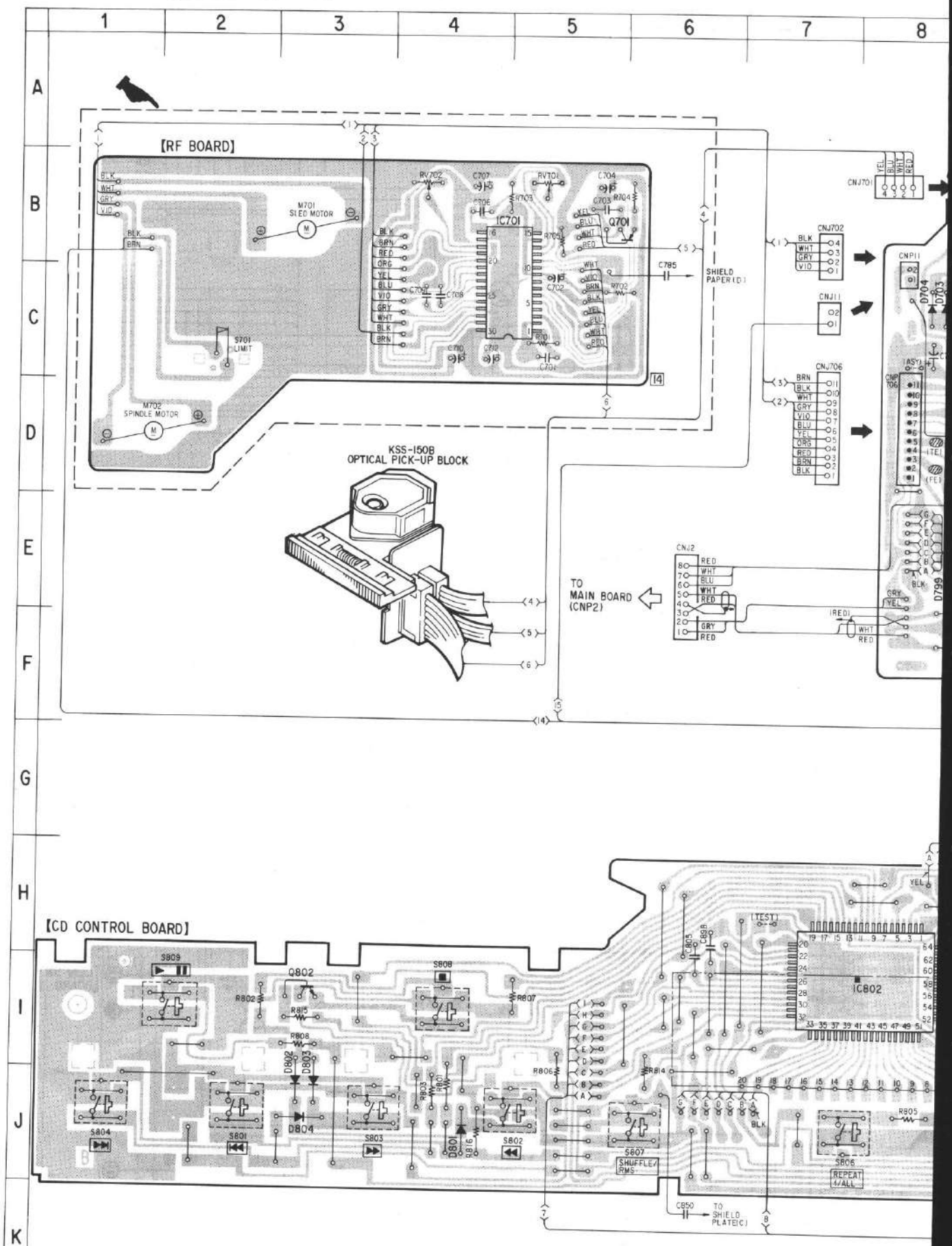


# LOCATION AND FUNCTION OF CONTROLS

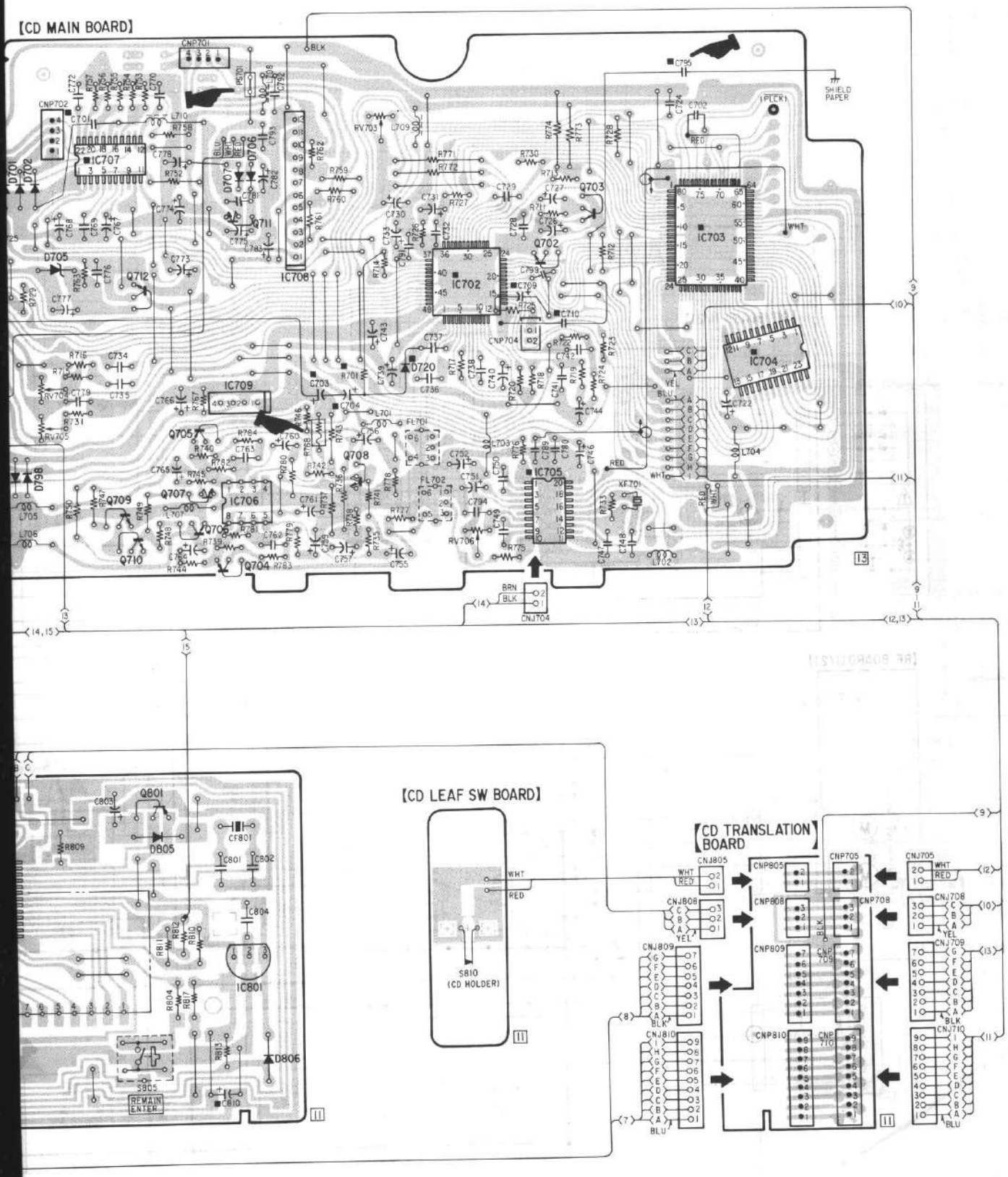


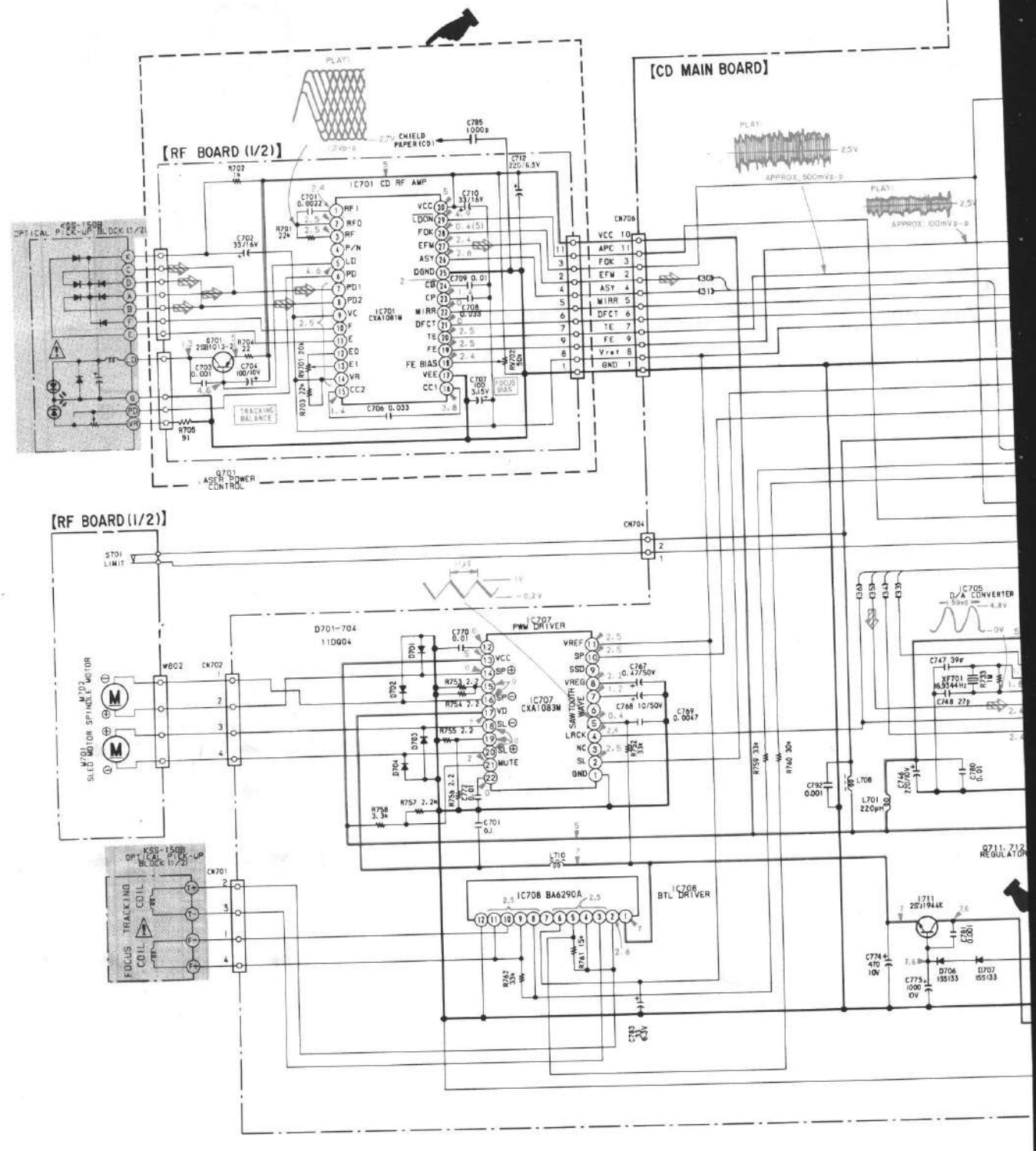



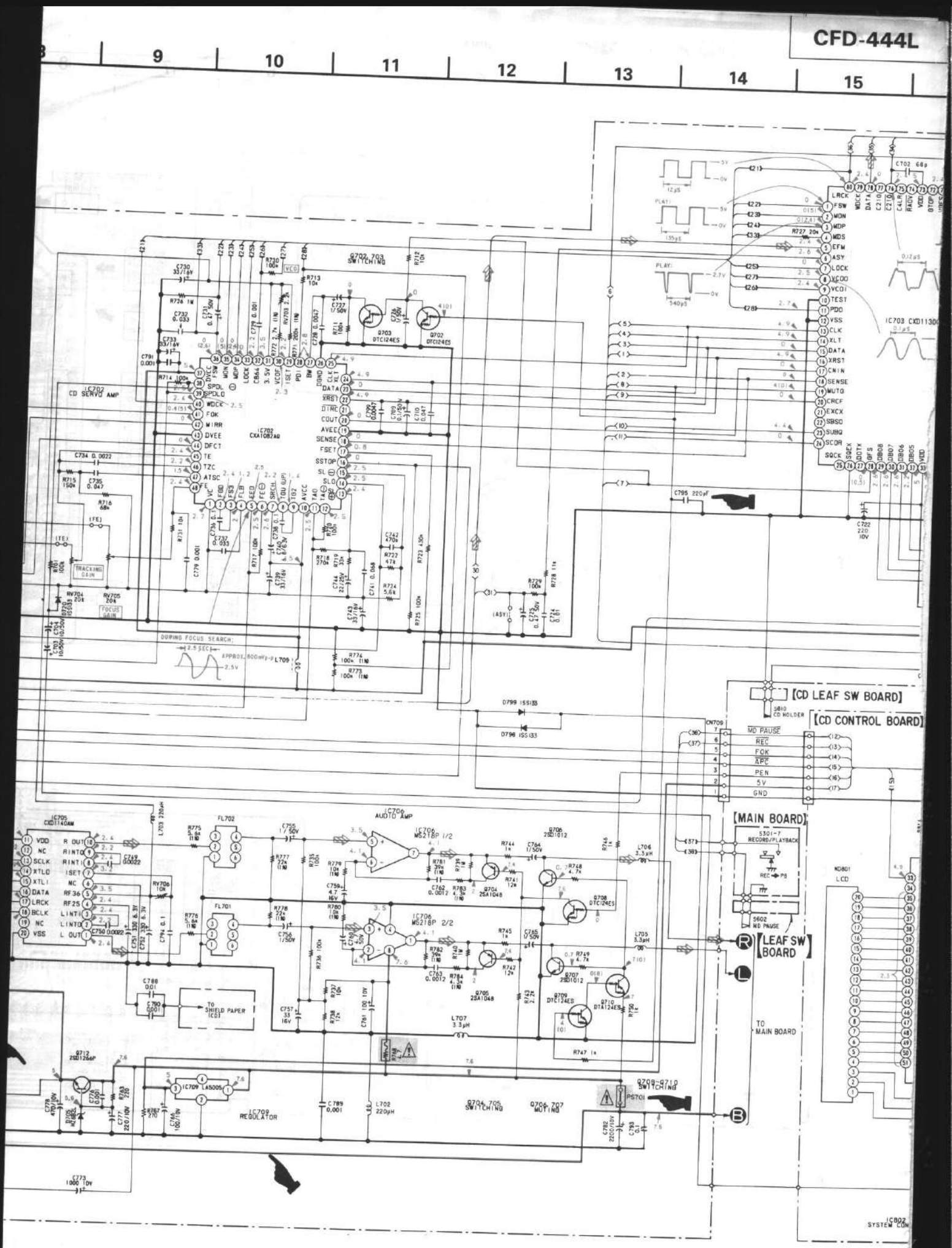

1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
H
I
J
K
[RF BOARD]
M701
SLED MOTOR
M702
SPINDLE MOTOR
S701
LIMIT
IC701
Q701
C785
SHIELD PAPER(D)
KSS-150B
OPTICAL PICK-UP BLOCK
TO
MAIN BOARD
(CNP2)
CNJ701
CNJ702
CNJ11
CNJ706
CNJ2
CNP11
[CD CONTROL BOARD]
S809
S808
Q802
S804
S801
S803
S802
S807
SHUFFLE/
PMS
S806
REPEAT
1/ALL
IC802
[TEST]
CB50
TO
SHIELD
PLATE(C)

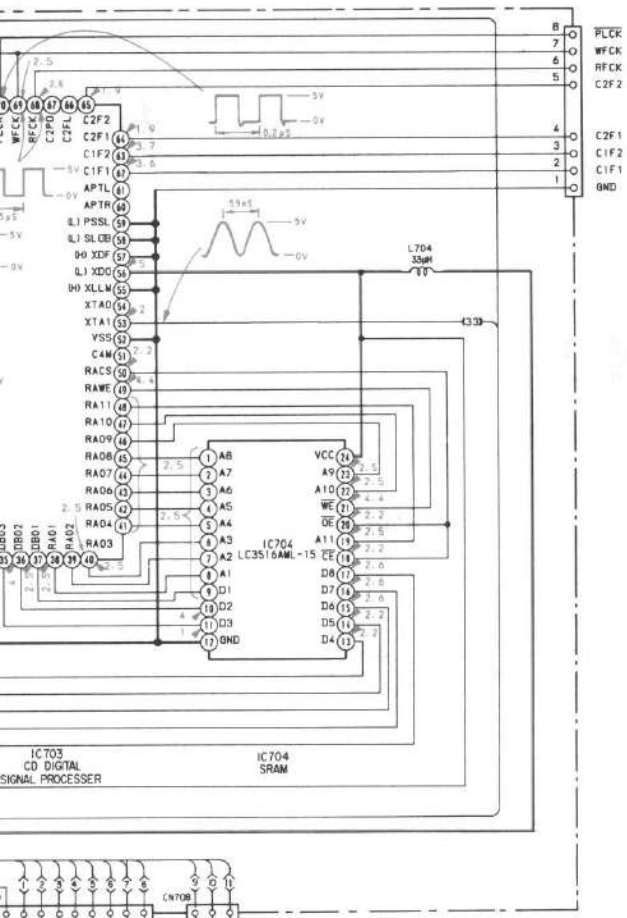
| 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|

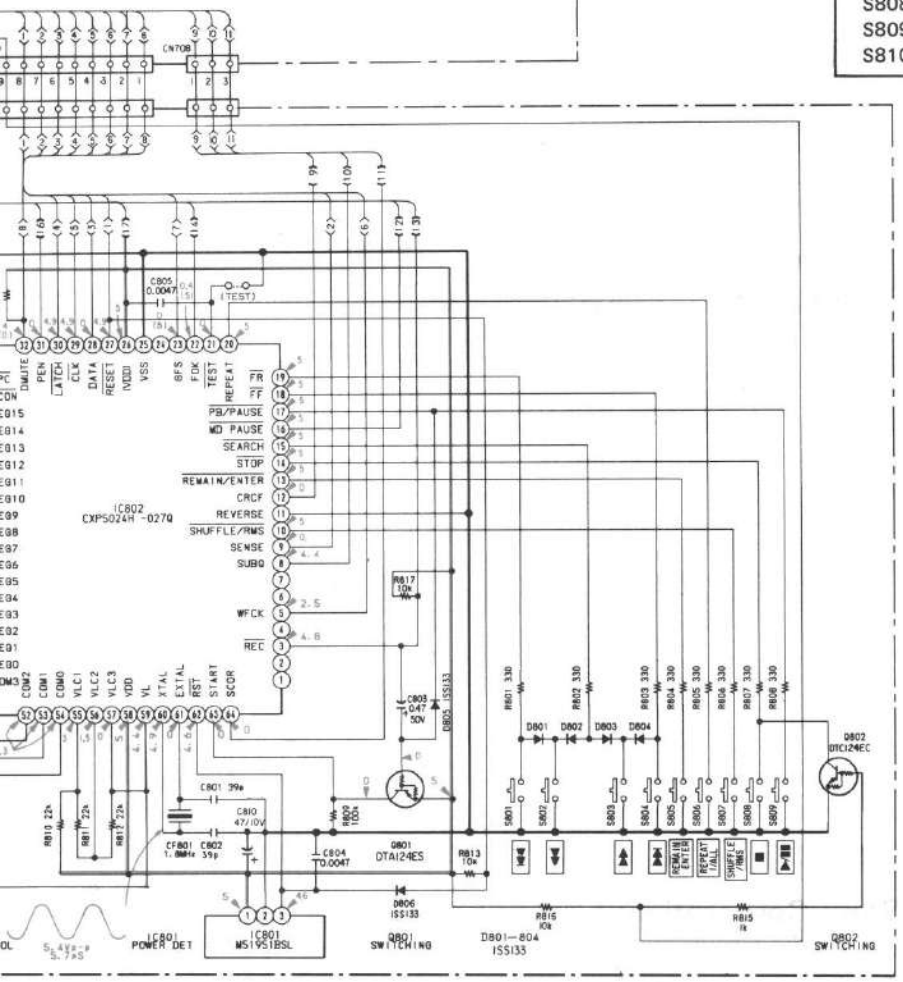


Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.




9
10
11
12
13
14
15
IC702 CD SERVO AMP
IC702 CXA1082AQ
Q702, 703 SWITCHING
Q703 DTC124ES
Q702 DTC124ES
IC703 CXD1130Q
IC705 CXD1140AM
IC706 AUDIO AMP
IC706 M5218P 1/2
IC706 M5218P 2/2
FL702
FL701
Q706 2SD1012
Q704 2SA1048
Q708 DTC124ES
Q707 2SD1012
Q705 2SA1048
Q709 DTA124ES
Q710 DTA124ES
Q712 2SD1266P
IC709 LA5005
IC709 REGULATOR
Q708~Q710 SWITCHING
Q704, 705 SWITCHING
Q706, 707 MUTING
PS701
D799 1SS133
D798 1SS133
[CD LEAF SW BOARD]
S810 CD HOLDER
[CD CONTROL BOARD]
CN709
MD PAUSE
REC
FOK
APC
PEN
5V
GND
[MAIN BOARD]
S301-7 RECORD/PLAYBACK
S602 MD PAUSE
[LEAF SW BOARD]
TO MAIN BOARD
TO SHIELD PAPER (CD)
IC802 SYSTEM CON
TRACKING GAIN
FOCUS GAIN
DURING FOCUS SEARCH
2.5 SEC
APPROX. 800mVp-p
2.5V
PLAY
5V
0V
12μS
135μS
540μS
2.7V
0.1μS
0.12μS




**Note:**

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- ▬▬ : B+ bus.
- ▭ : adjustment for repair.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under service mode with a VOM (50 kΩ/V).
  no mark : STOP
  ( ) : PLAY
- Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken to ground in service mode by using oscilloscope.
  Voltage variations may be noted due to normal production tolerance.
- ⇨ : CD signal path
- Switch

| Ref. No. | Switch | Position |
|---|---|---|
| S602 | MD pause | OFF |
| S701 | LIMIT IN | OFF |
| S801 | ⏮ | OFF |
| S802 | ◀◀ | OFF |
| S803 | ▶▶ | OFF |
| S804 | ▶▶⏭ | OFF |
| S805 | REMAIN/ENTER | OFF |
| S806 | REPEAT 1/ALL | OFF |
| S807 | SHUFFLE/RMS | OFF |
| S808 | ■ | OFF |
| S809 | ▶/⏸ | OFF |
| S810 | CD HOLDER | ON |

## Tuner/general section

[1] **Speaker**

[2] **PHONES (headphones) jack** (stereo minijack)

[3] **POWER switch**

[4] **OPR/BATT (operation/battery) indicator**

[5] **FM ST (FM stereo) indicator**

[6] **Dial scale and pointer**

[7] **FINE TUNING control**
Used for precise tuning of SW stations.

[8] **Tuning control**

[9] **BAND selector**

[10] **VOLUME control**

[11] **BALANCE control**
Use to adjust stereo imaging, especially when speakers are not symmetrically placed.

[12] **GRAPHIC EQUALIZER controls** (for listening only)

[13] **FUNCTION selector**
**CD:** To listen to/record CD sound.
**LINE IN:** To listen to/record sound from the equipment connected to the LINE IN jacks.
**RADIO:** To listen to/record radio programs.
**TAPE:** To listen to tapes.

## CD/cassette deck section

[14] **Cassette holder**

[15] **CD display window**

[16] **CD operation buttons**
■ (stop)
▶II (play/pause)
◀◀/▶▶ (search)
|◀◀/▶▶| (AMS)

[17] **Tape operation buttons**
■ (stop/eject)
● (record)
▶ (playback)
◀◀ (rewind)
▶▶ (fast forward)
II (pause)

[18] **CD operation mode buttons**
**REMAIN/ENTER:** To display the remaining time on a disc, or to program selections.
**REPEAT 1/ALL:** To repeat one or all of the selections.
**SHUFFLE/RMS:** To play the selections in a random order, or to program specific selections.

[19] **CD holder**

[20] **EJECT button** (for CD)

## Rear

[21] **Battery compartment**

[22] **AC IN (AC power input) socket**

[23] **Telescopic antenna**

[24] **LINE IN (line input) jacks** (phono jacks)

[25] **CD OUT (CD output) jacks** (phono jacks)

[26] **SPEAKER terminals**

[27] **ISS/FM MODE (Interference Suppress Switch/FM mode switch)**

## SERVCIE MODE (service program)

This set has built-in service program in the micro-computer as usual sets.
The operation method of service program is explained below.

[ ]: Main operation in service mode
for details, refer to step 2.

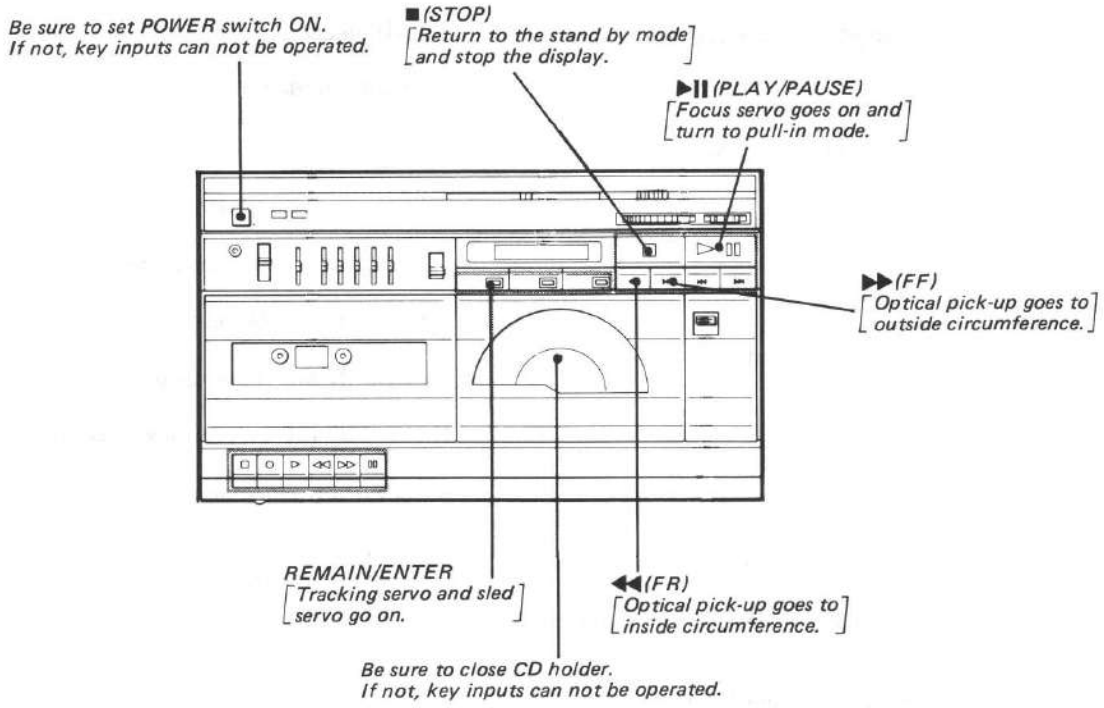
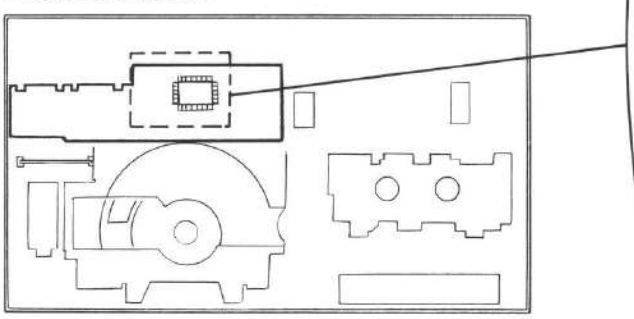

Be sure to set POWER switch ON.
If not, key inputs can not be operated.
■ (STOP)
[Return to the stand by mode and stop the display.]
▶II (PLAY/PAUSE)
[Focus servo goes on and turn to pull-in mode.]
▶▶ (FF)
[Optical pick-up goes to outside circumference.]
REMAIN/ENTER
[Tracking servo and sled servo go on.]
◀◀ (FR)
[Optical pick-up goes to inside circumference.]
Be sure to close CD holder.
If not, key inputs can not be operated.

*Fig. 1 Key Positions*

### Step 1 (Service Mode Setting Method)

1. Turn the POWER switch ON and FUNCTION switch to CD with the power cord not plugged in (no power applied to set) and press the ▶II key. (This is to discharge C804 connected to IC801 pin (62) (RST).)
2. Solder jumper TEST point. (IC801 pin (21) (TEST) is grounded.)
3. Plug in power cord. This puts the set into service mode.



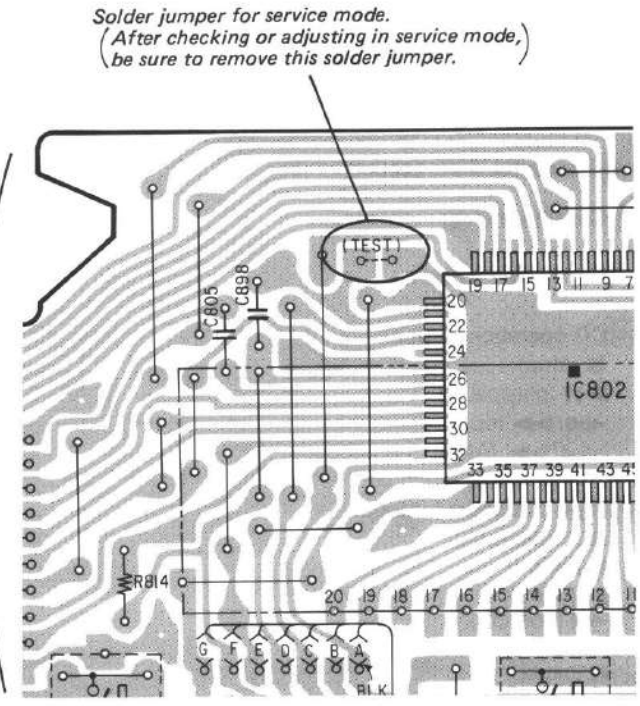




*Fig. 2 TEST Point Position*

**Step 2 (Service Mode operation)**

1. When service mode is set, the display will change 6 times (includes all the segments lighting and all turning out), and those 6 changes will be repeated over and over.
   When ■ key is pressed, the display stops.
   When ■ key is released, the display continues to change. This allows check of each segment.
   The following operation can not be performed if the CD holder is not shut.
2. When ■ key is pressed on each mode, return to the step 1.
3. When ▶▶| or |◀◀ key is pressed, the optical pick-up block moves to the inside or outside circumference. Tracking servo and sled servo go off when this is done, so press REMAIN/ENTER key to turn on the tracking servo if necessary.
4. When ▶II key is pressed, CLV-S (pull-in mode) starts while performing focus search. When there is no disc installed, focus search is repeated several times while disc motor is rotating.
5. When REMAIN/ENTER key is pressed, tracking servo, sled servo and CLV-A (servo during PLAY) go ON.
6. When 4 and 5 are performed, the disc begins to play.

**Step 3 (Service Mode release)**

1. First be sure to unplug the power cord then remove the TEST point solder jumper.
   (During service mode, C804 is discharged by unplugging the power cord. Therefore, microcomputer IC801 is reset by next plugging in the power cord.)
2. The set will now operated normally.

## NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe, from more than 30 cm away from the objective lens.

**Laser Diode Check Procedure**

The laser diode on this set will not emit unless the CD holder is closed and S810 (leaf SW type) is turned on. The laser diode will always emit even if focus search is not performed in service mode.

**Procedure**:
Check the laser diode emission with the eye.

1. Open upper panel.
2. S810 on as Fig. 3.
   (In service mode, this operation is not necessary.)
3. Press the ▶II key.
   (In service mode, this operation is not necessary.)
4. Observe the objective lens and confirm that the laser diode is emitting light. If it does not, APC circuit or optical pick-up block is defective.

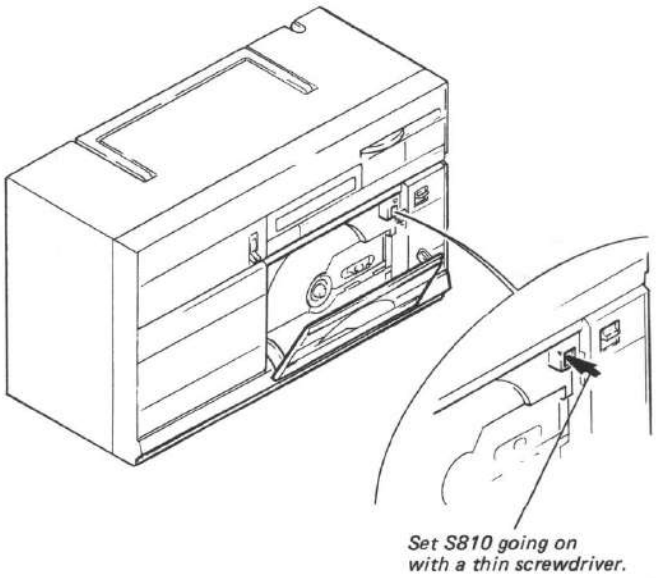
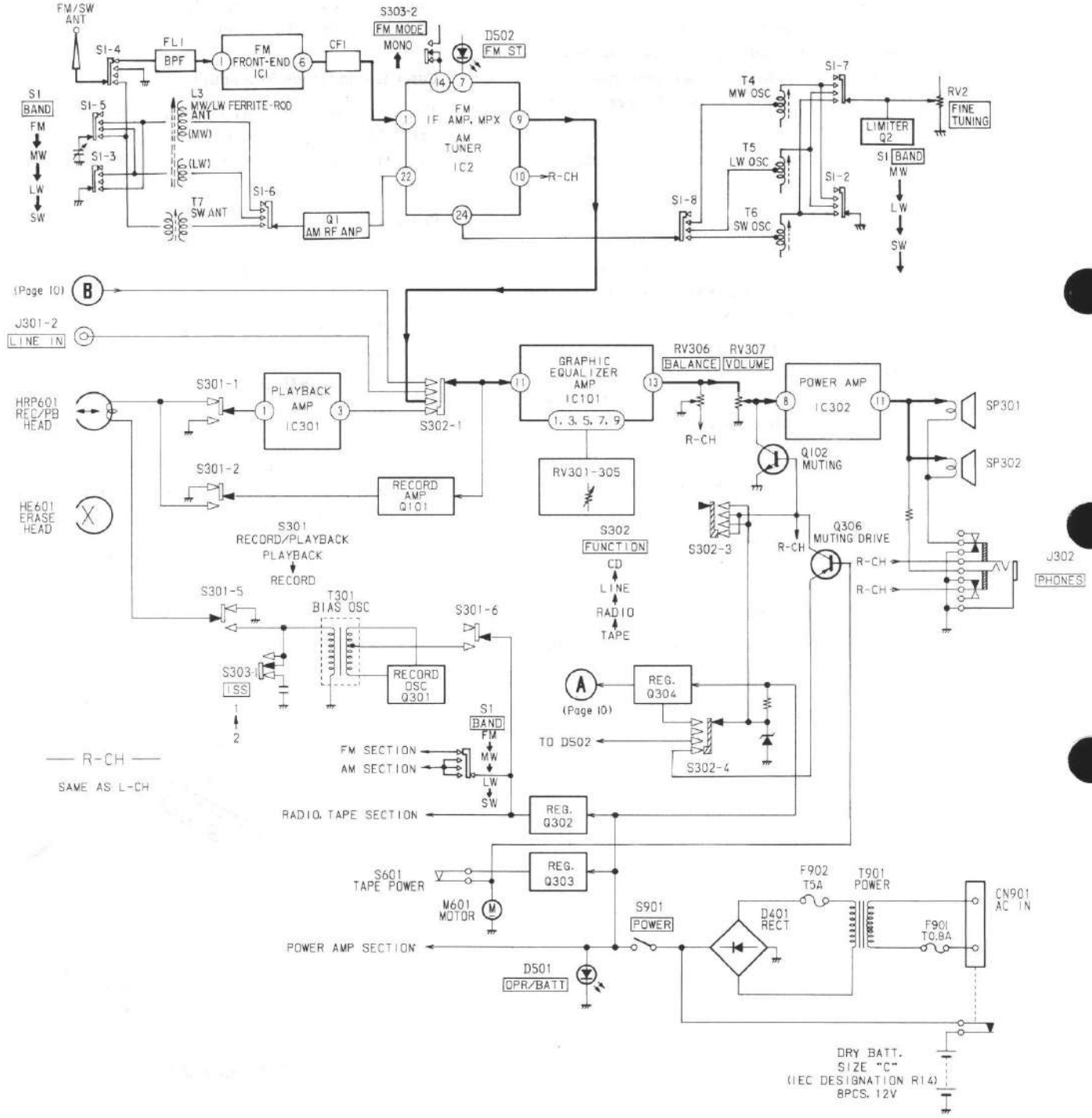


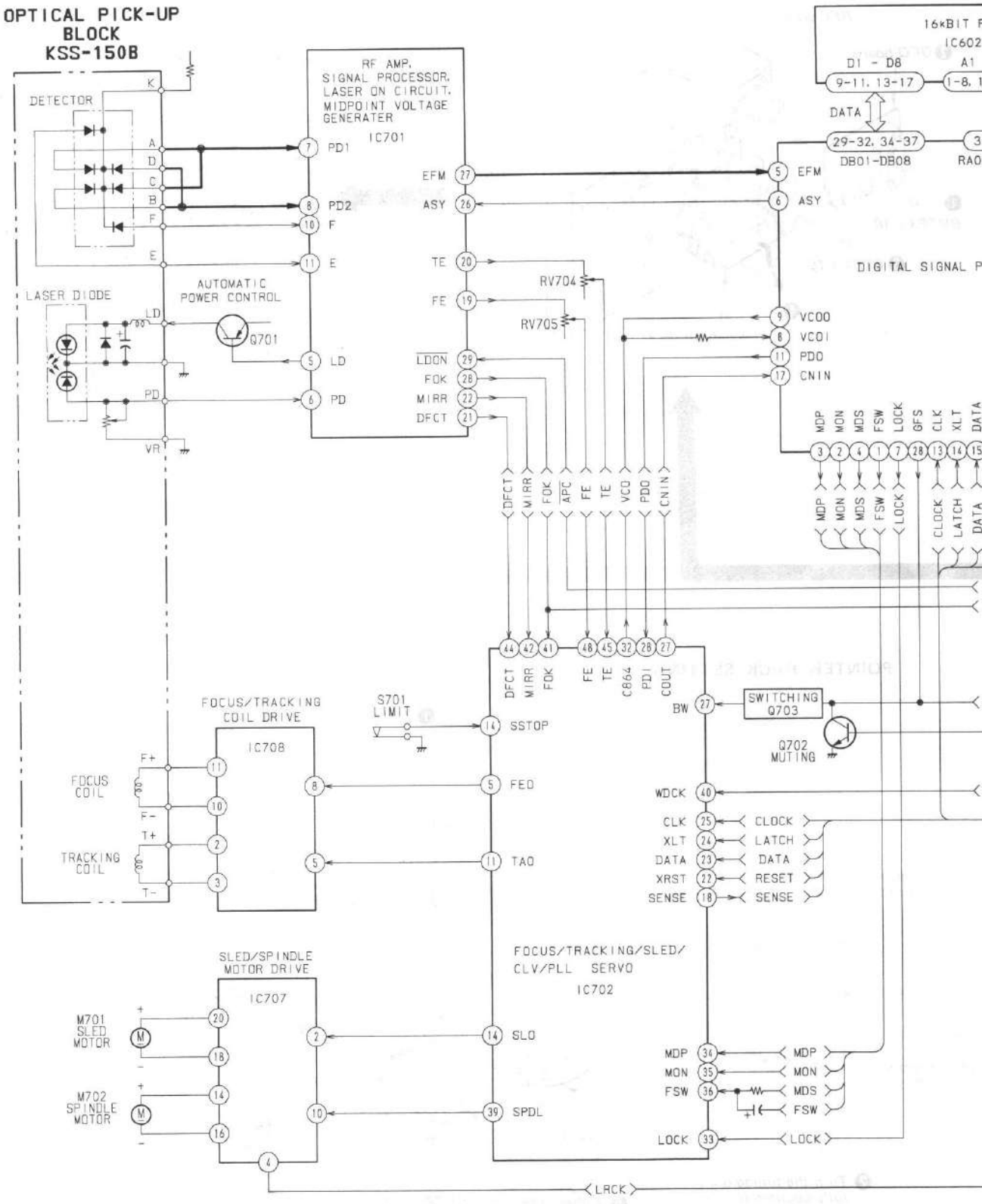

*Fig. 3 Turning S810 on*

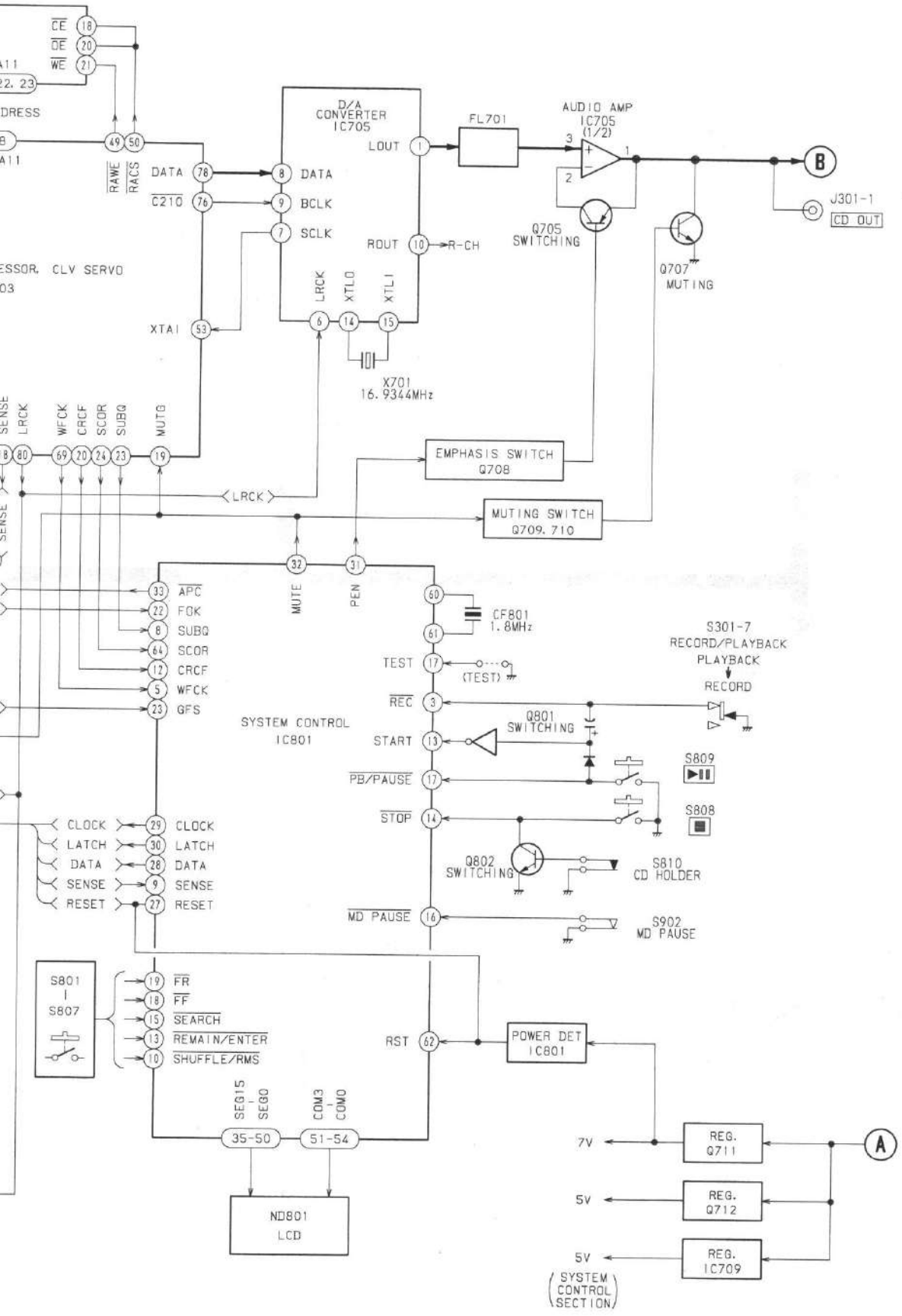
# SECTION 1
# BLOCK DIAGRAMS

## 1-1. RADIO/RECORDER SECTION



## 1-2. CD SECTION

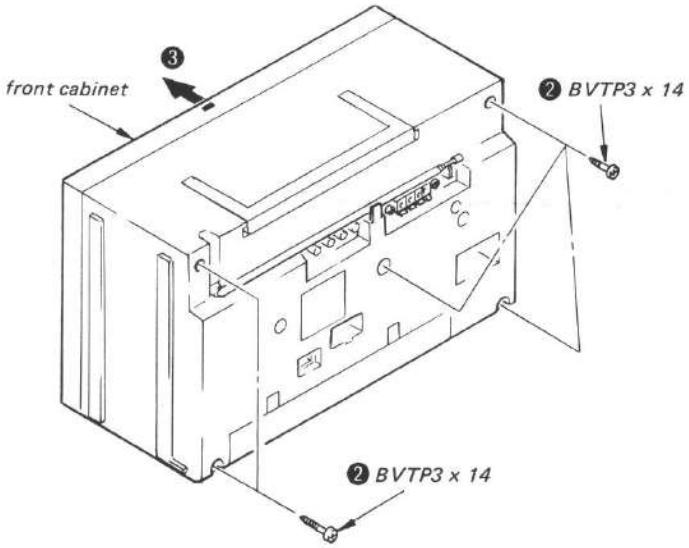



D/A CONVERTER IC705
FL701
AUDIO AMP IC705 (1/2)
LOUT
ROUT
R-CH
DATA
BCLK
SCLK
LRCK
XTLO
XTLI
XTAI
X701 16.9344MHz
Q705 SWITCHING
Q707 MUTING
J301-1 CD OUT
EMPHASIS SWITCH Q708
MUTING SWITCH Q709, 710
MUTE
PEN
APC
FOK
SUBQ
SCOR
CRCF
WFCK
GFS
CF801 1.8MHz
TEST
REC
START
PB/PAUSE
STOP
SYSTEM CONTROL IC801
S301-7 RECORD/PLAYBACK
PLAYBACK
RECORD
Q801 SWITCHING
S809
S808
Q802 SWITCHING
S810 CD HOLDER
MD PAUSE
S902 MD PAUSE
CLOCK
LATCH
DATA
SENSE
RESET
S801 - S807
FR
FF
SEARCH
REMAIN/ENTER
SHUFFLE/RMS
RST
POWER DET IC801
SEG15 - SEG0
COM3 - COM0
35-50
51-54
ND801 LCD
7V
5V
5V
REG. Q711
REG. Q712
REG. IC709
SYSTEM CONTROL SECTION
A
B

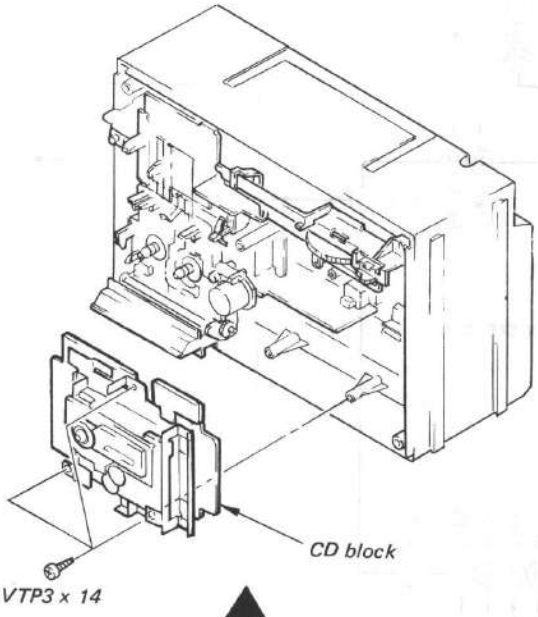
# SECTION 2
# DISASSEMBLY

**Note:** Follow the disassembly procedure in the numerical order given.

## FRONT CABINET REMOVAL

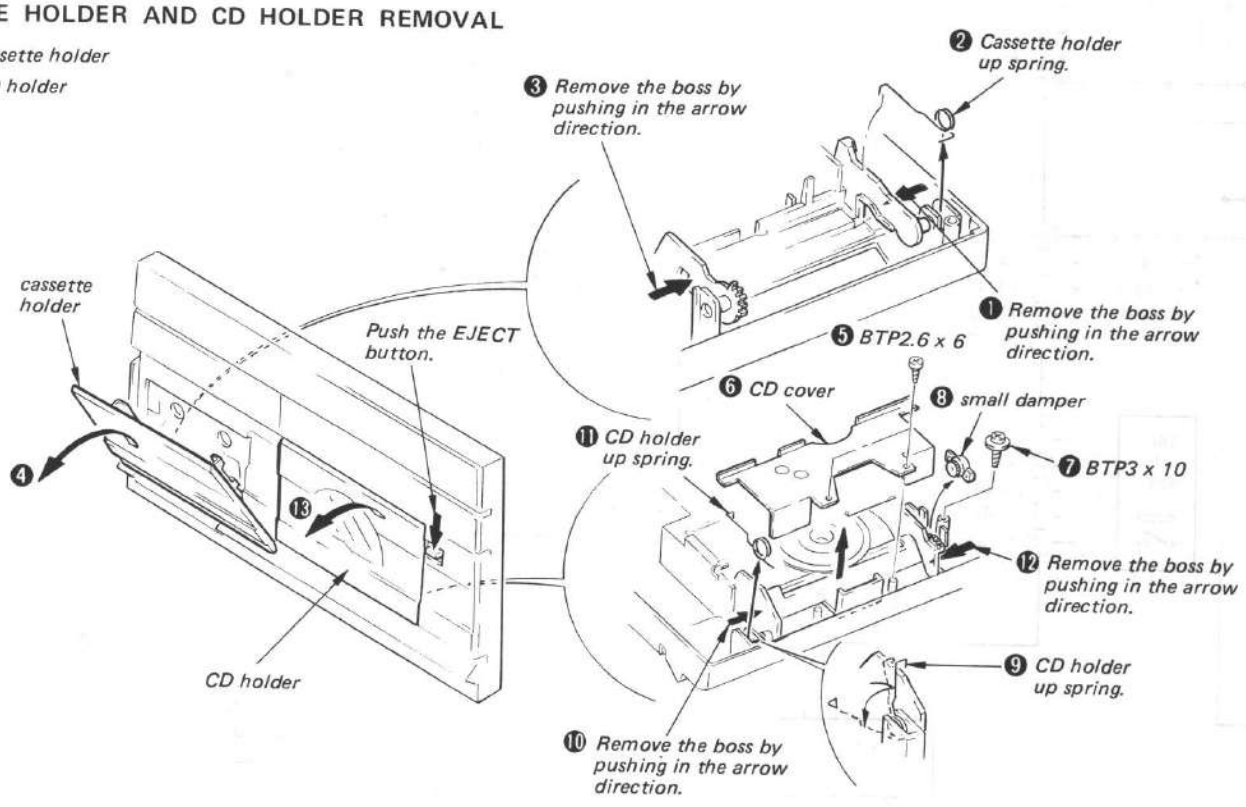



## CD BLOCK REMOVAL

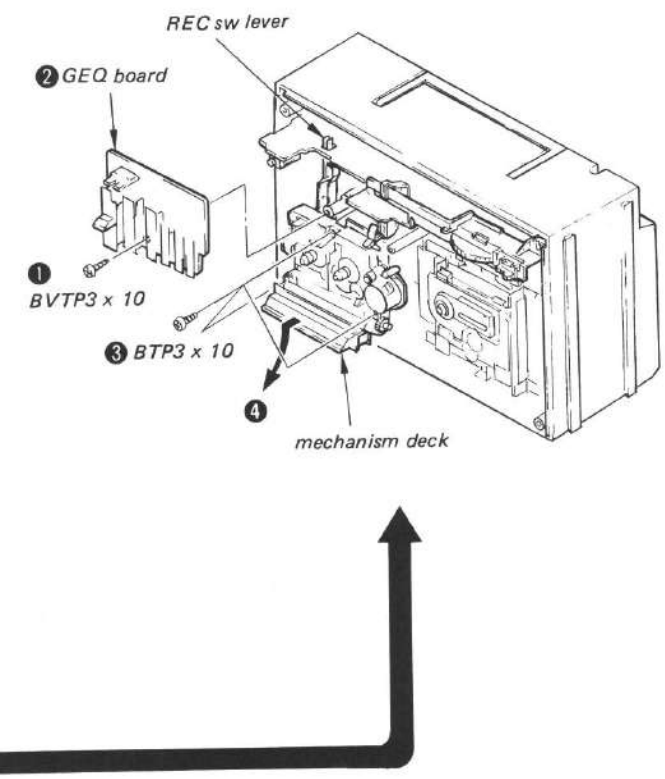



## CASSETTE HOLDER AND CD HOLDER REMOVAL

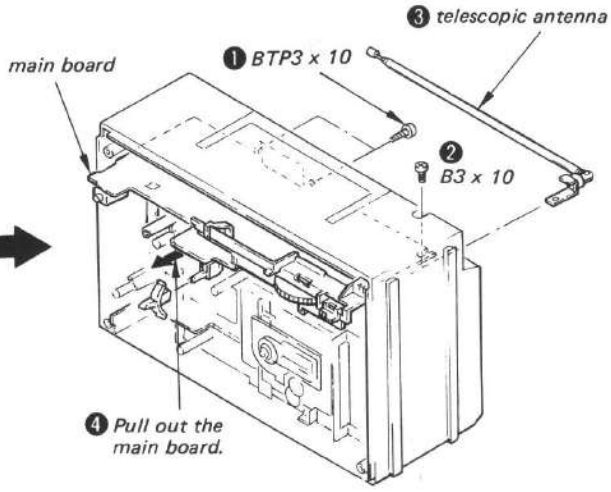
❶ – ❹ : cassette holder
❺ – ⓭ : CD holder


❷ Cassette holder up spring.
❸ Remove the boss by pushing in the arrow direction.
cassette holder
Push the EJECT button.
❹
⓭
CD holder
❺ BTP2.6 x 6
❶ Remove the boss by pushing in the arrow direction.
❻ CD cover
❽ small damper
⓫ CD holder up spring.
❼ BTP3 x 10
⓬ Remove the boss by pushing in the arrow direction.
❾ CD holder up spring.
❿ Remove the boss by pushing in the arrow direction.

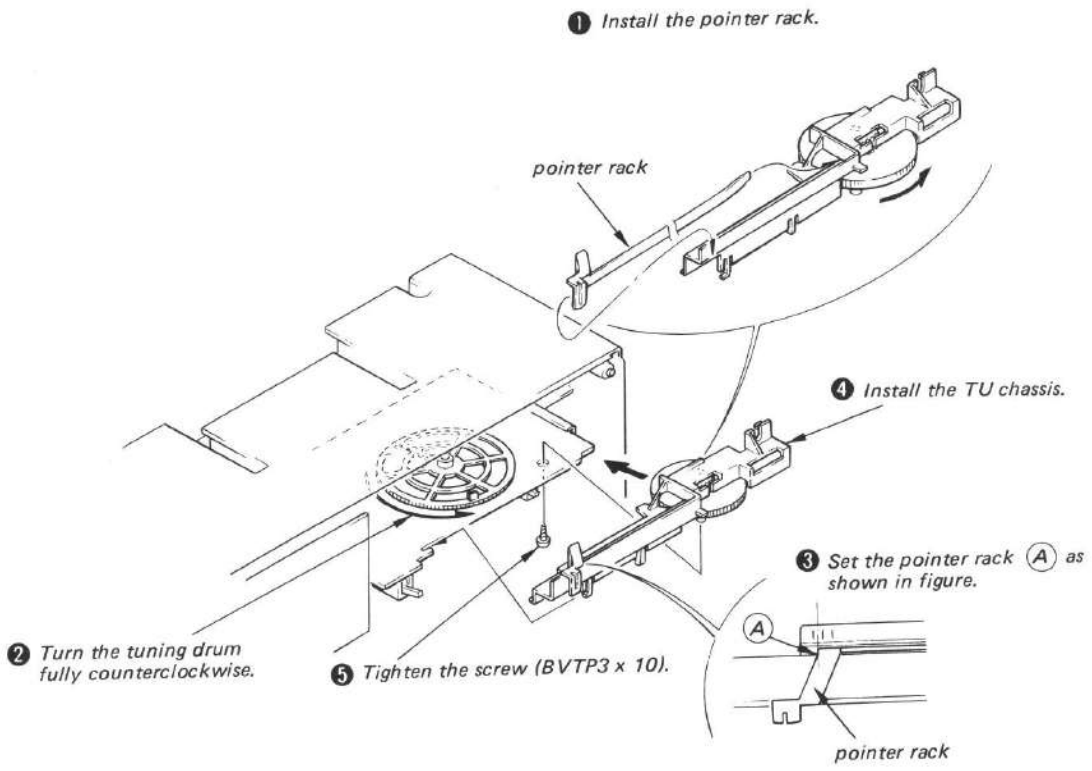
## MECHANISM DECK REMOVAL




## MAIN BOARD REMOVAL




## POINTER RACK SETTING


❶ Install the pointer rack.
pointer rack
❹ Install the TU chassis.
❸ Set the pointer rack (A) as shown in figure.
A
❷ Turn the tuning drum fully counterclockwise.
❺ Tighten the screw (BVTP3 x 10).
pointer rack

# SECTION 3
# ADJUSTMENTS

## 3-1. MECHANICAL ADJUSTMENTS

### PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:
   - record/playback head
   - erase head
   - capstan
   - pinch roller
   - rubber belts
   - idlers
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.

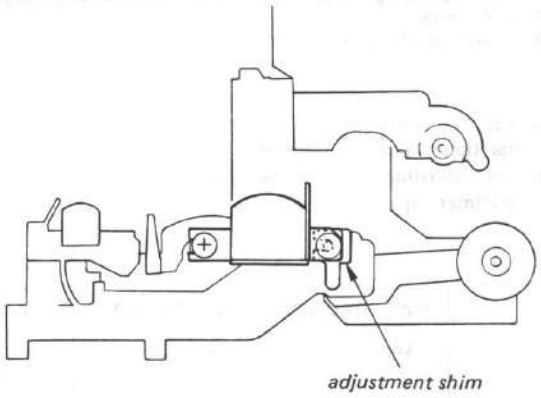
**Torque Measurement**

| Torque | Torque meter | Meter reading |
|---|---|---|
| FWD | CQ-102C | 25 to 55 g·cm (0.35 to 0.76 oz·inch) |
| FWD Back Tension | CQ-102C | 2.5 to 5.5 g·cm (0.04 to 0.07 oz·inch) |
| REV | CQ-102RB | 25 to 55 g·cm (0.35 to 0.76 oz·inch) |
| REV Back Tension | CQ-102RB | 2.2 to 5.5 g·cm (0.04 to 0.07 oz·inch) |
| FF | CQ-201B | 100 to 180 g·cm (1.39 to 2.5 oz·inch) |
| REW | CQ-201B | 95 to 145 g·cm (1.33 to 2.01 oz·inch) |

**Tape Path Adjustment**

When the mode is playback (FWD, REV), run a mirror cassette, then turn adjustment screw to eliminate tape curl and tape twist at tape guide on erase head and record/playback head.
Adjust the height by using head shim if needed.
Standard t = 0.1

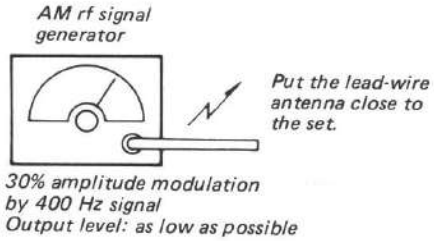
| Part Code | t |
|---|---|
| 3-578-138-01 | 0.1 |
| 3-578-138-11 | 0.2 |
| 3-578-138-21 | 0.3 |

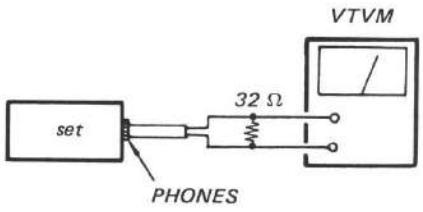


## 3-2. ELECTRICAL ADJUSTMENTS

**MW/LW SECTION**

FUNCTION: RADIO
BAND: MW or LW


AM rf signal generator
Put the lead-wire antenna close to the set.
30% amplitude modulation by 400 Hz signal
Output level: as low as possible

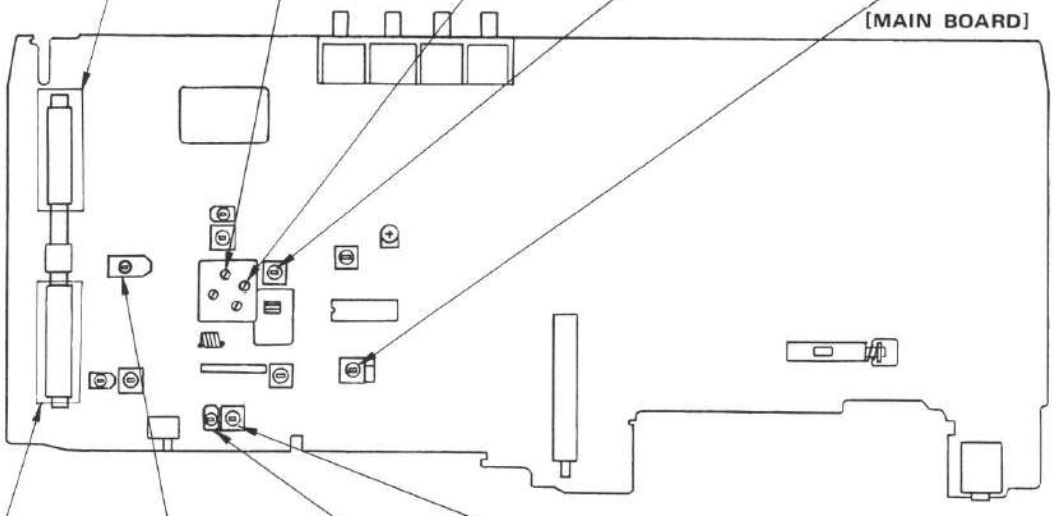



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

| MW TRACKING ADJUSTMENT | |
|---|---|
| Adjust for a maximum reading on VTVM. | |
| 620 kHz | 1,400 kHz |
| L3 | CT1-3 |

| MW FREQUENCY COVERAGE ADJUSTMENT | |
|---|---|
| Adjust for a maximum reading on VTVM. | |
| 1,650 kHz | 525 kHz |
| CT1-4 | T4 |

| MW IF ALIGNMENT |
|---|
| Adjust for a maximum reading on VTVM. |
| 455 kHz |
| T2 |

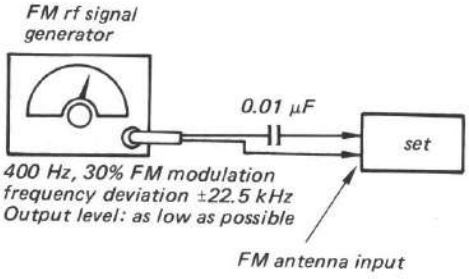



| L3 | CT2 |
|---|---|
| 160 kHz | 260 kHz |
| Adjust for a maximum reading on VTVM. | |
| LW TRACKING ADJUSTMENT | |

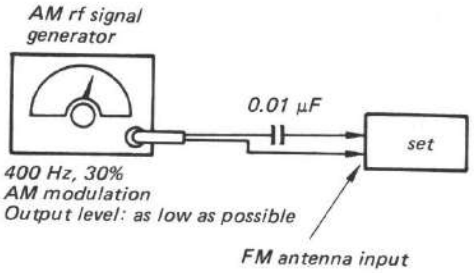
| CT4 | T5 |
|---|---|
| 295 kHz | 145 kHz |
| Adjust for a maximum reading on VTVM. | |
| LW FREQUENCY COVERAGE ADJUSTMENT | |

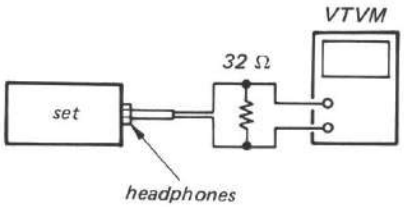
## FM/SW SECTION

- **FM Section**
  FUNCTION: RADIO
  BAND: FM




- **SW Section**
  FUNCTION: RADIO
  BAND: SW



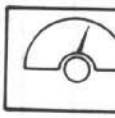




- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

**FM Discri**

**Procedure**

*FM rf sig generator*



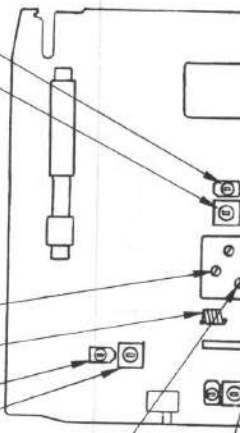
*Carrier fre*
*Modulatio*
*Output lev*
*Mode:*

1. Tune in
2. Adjust symmet

| SW2 TRACKING ADJUSTMENT | |
|---|---|
| Adjust for a maximum reading on VTVM. | |
| 18.4 MHz | CT3 |
| 5.75 MHz | T7 |

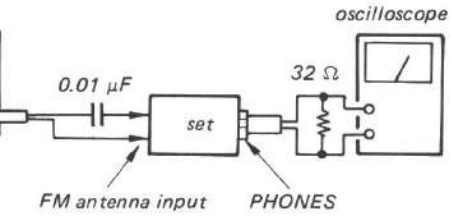
| FM TRACKING ADJUSTMENT | |
|---|---|
| Adjust for a maximum reading on VTVM. | |
| 109.5 MHz | CT1-1 |
| 86.5 MHz | L1 |

| | |
|---|---|
| 18.4 MHz | CT5 |
| 5.75 MHz | T6 |
| Adjust for a maximum reading on VTVM. | |
| SW1 FREQUENCY COVERAGE ADJUSTMENT | |



| | |
|---|---|
| CT1-2 | L2 |
| 109.5 MHz | 86.5 MH |
| Adjust for a maximum readir on VTVM. | |
| FM FREQUENCY COVERA ADJUSTMENT | |

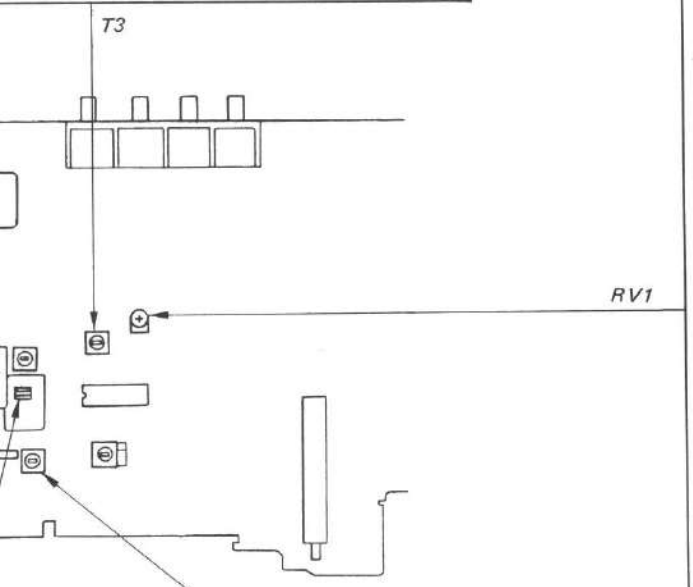
## ator Adjustment




ncy: 98 MHz
1 kHz, 75 kHz deviation (100%)
1 mV (60 dB)
monoural

3 MHz signal.

so that the oscilloscope waveform is al.

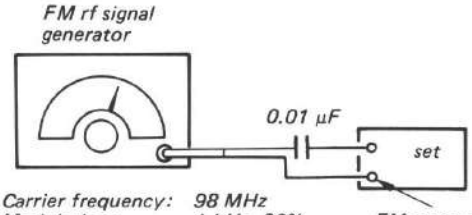



| T1 |
|---|
| Adjust for a maximum reading on VTVM. |
| FM IF ALIGNMENT |

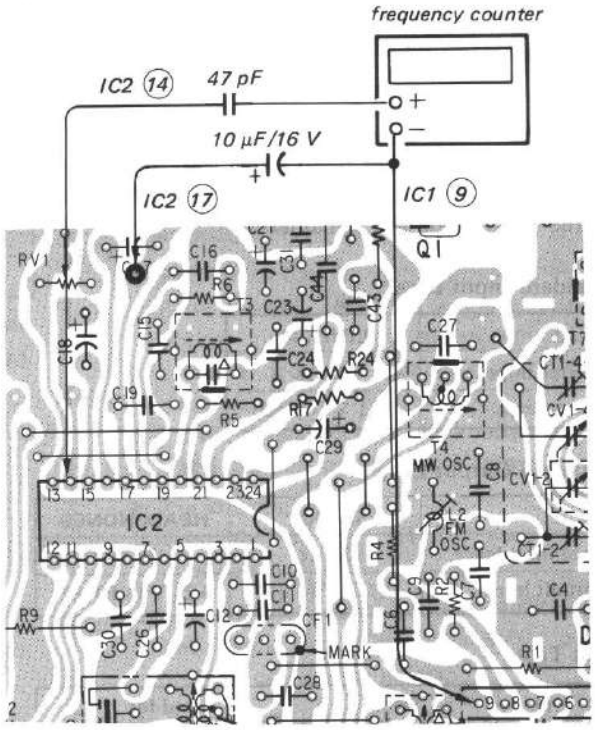
## VCO Adjustment

### A) Regular Method

**Procedure:**




Carrier frequency: 98 MHz
Modulation: 1 kHz, 30%
Output level: 1 mV (60 dB)

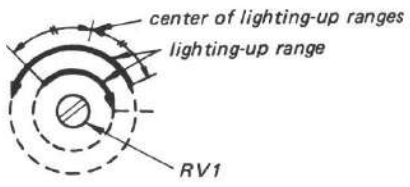



1. Tune the set to 98 MHz.
2. Adjust RV1 for 19 kHz ±0.2 kHz on the counter.

### B) Simple Method

**Procedure:**

1. Tune the set to the FM stereo broadcasting signal.
2. Turn RV1 clockwise or counterclockwise and memorize the lighting-up range of the FM STEREO stereo lamp.
3. Secure RV1 at the center of the lighting-up range of both turns as shown below.



## RECORDER SECTION

1. The adjustments should be performed in the order given in the Service Manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
2. The adjustments should be performed for both L-CH and R-CH unless otherwide indicated.

- Switch location

| | |
|---|---|
| FUNCTION | TAPE |
| ISS | 2 |
| GRAPHIC EQUALIZER | center click |
| BALANCE | center click |
| VOLUME | mechanical center |

- Standard Record:
  Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

**Standard Input Level**

| | LINE IN |
|---|---|
| source impedance | 10 kΩ |
| input level | 0.31 V (−8 dB) |

**Standard Output Level**

| | SP OUT | HEADPHONES |
|---|---|---|
| load impedance | 3.2 Ω | 32 Ω |
| output level | 0.775 V (0 dB) | 0.25 V (−10 dB) |

**Test Tape**

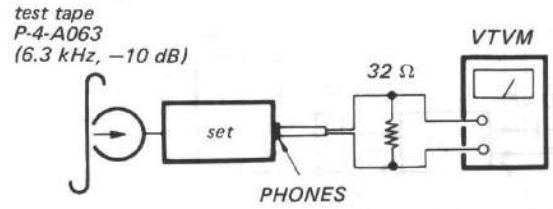
| Type | Signal | Used for |
|---|---|---|
| P-4-A063 | 6.3 kHz, −10 dB | Azimuth Adjustment |
| WS-48A | 3 kHz, 0 dB | Tape Speed Adjustment |

0 dB = 0.775 V

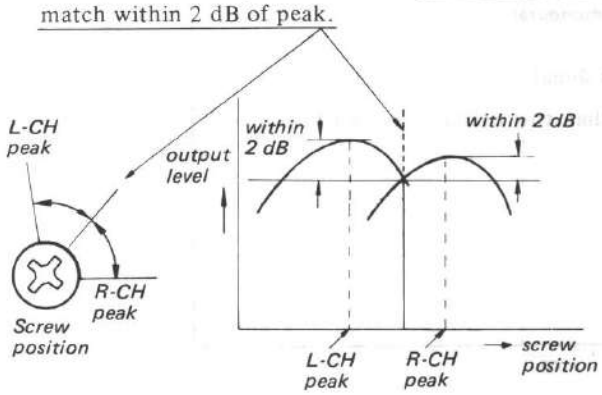
**Record/Playback Head Azimuth Adjustment**

**Procedure:**

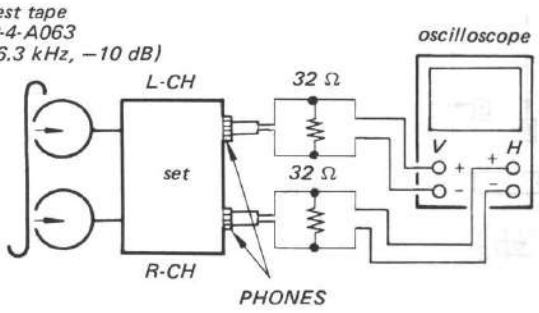
1. Mode: playback

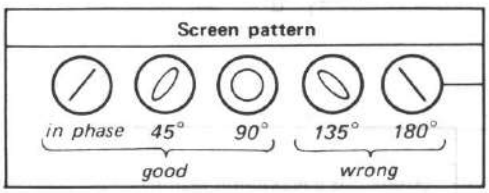



2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 2 dB of peak.



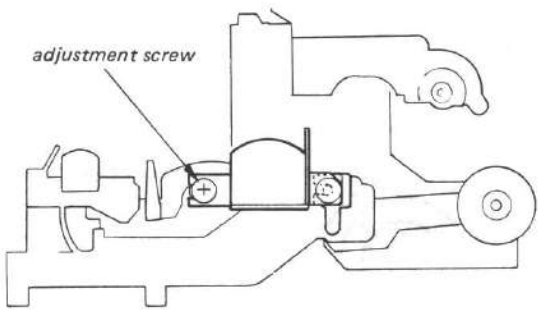

3. Phase Check
   Mode: playback




**Note:** Finish the screw adjustment with a turn in the clockwise direction.
After the adjustment, lock the adjustment screw.

**Adjustment Location:**

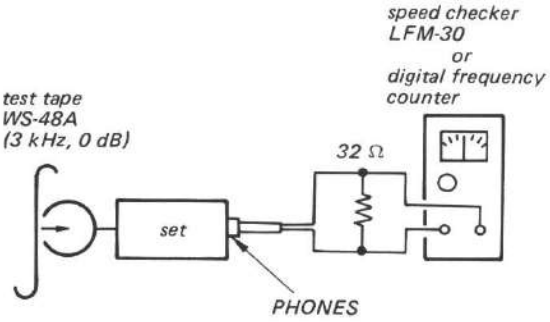


### Tape Speed Adjustment

Setting:

Mode: playback

Procedure:

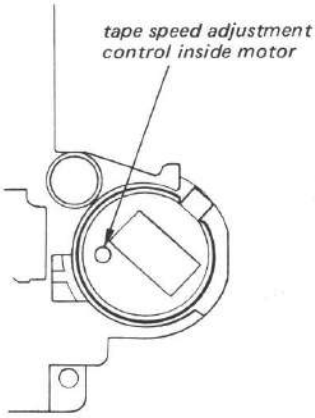



Specification:

| Speed checker | Digital frequency counter |
|---|---|
| −1.5 to +2% | 2,955 to 3,060 Hz |

Frequency difference between the beginning and the end of the tape should be within 1% (30 Hz).

Adjustment Location




## CD SECTION

Notes on Adjustment

1. Perform adjustments except for CD OUT LEVEL ADJUSTMENT in service mode. Be sure to release service mode after completing adjustment. (Refer to "Service Mode (service program)" on page 6, 7.)
2. Perform adjustments in the order given.
3. Use YEDS-18 disc (part No.: 3-702-101-01) unless otherwise indicated.
4. When repairing CD section, use the chuck plate jig in order to play a disc without using the CD holder. (Refer to page 3.)

### PREPARATION

Put the set into service mode (see page 6, 7) and perform the following checks. Repair if there are any abnormalities.

- Sled Motor Check

  Press the ▶▶|, |◀◀ keys and make sure that the optical pick-up block moves smoothly, without catching, from the inmost → outmost → inmost circumference.

  ▶▶| : optical pick-up block moves outward

  |◀◀ : optical pick-up block moves inward

- Focus Search Check

1. Press the ▶II key. (Focus search is performed continously.)
2. Observe the optical pick-up block objective lens and check that it moves smotthly up and down with no catching or noises.
3. Press the ■ key.

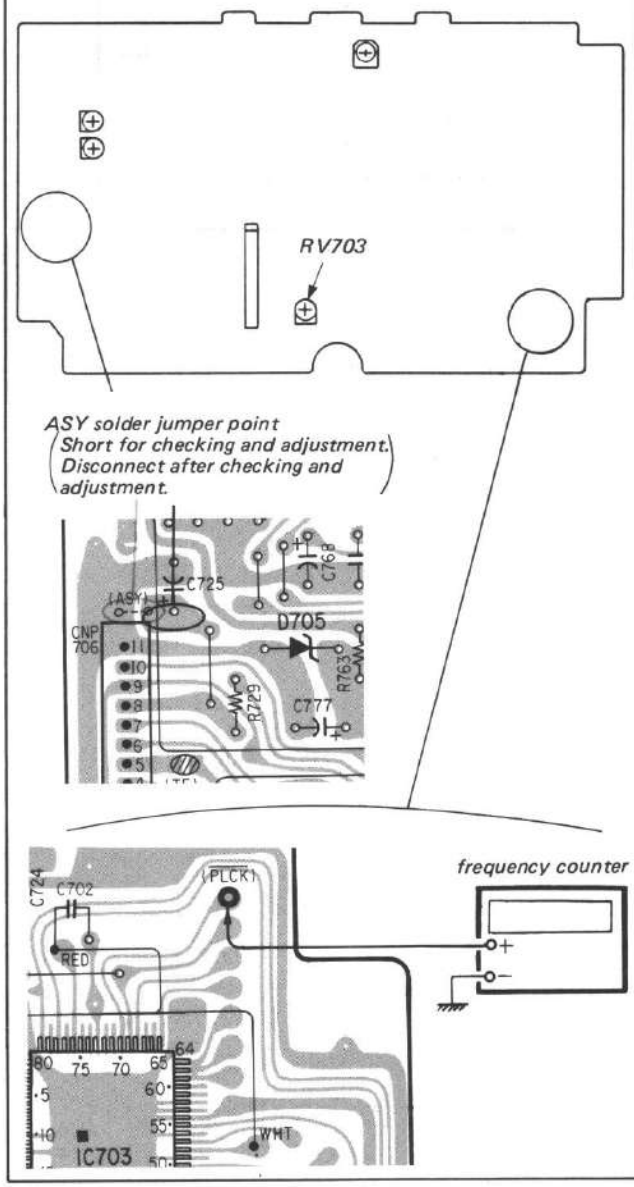
   Check that focus search operation stops. If it does not, press the ■ key again, longer.

### PLL Free Run Frequency Check and Adjustment

**Check/Adjustment Procedure:**

1. Short the jumper point (ASY) in the diagram below.
2. Connect a frequency counter to CD main board test point TP (PLCK).
3. Put the set into service mode (see page 6, 7).
4. Check that the frequency counter reading is 4.375 ±0.01 MHz. If not, adjust RV703 so that it is 4.375 ±0.01 MHz.
5. After adjustment, release service mode (see page 6, 7).
6. Disconnect the jumper point shorted in step 1.

**Check/Adjustment Location:** CD main board



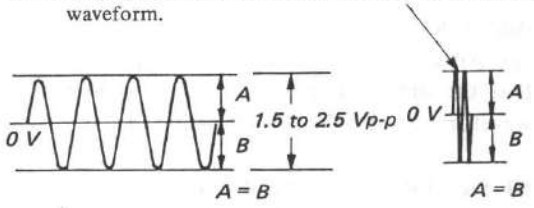

### Tracking Balance Adjustment

**Conditions:**

The set should be placed either horizontally.

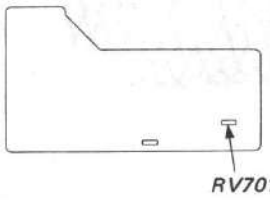
**Adjustment Procedure:**

1. Connect the oscillosocpe to CD main board TP (TE).
2. Put the set into service mode (see page 6, 7).
3. Press the ▶▶| and |◀◀ keys to move the optical pick-up block to the center.
4. Insert the disc (YEDS-18) and close the CD holder.
5. Press the ▶II key.
   (It will go from focus search to focus on, and CLV pull-in mode state. Tracking and sled are OFF.)
6. Adjust RV701 so that the oscilloscope wavefrom is symmetrical on the top and bottom in relation to 0 V.
   **Note:** Take sweep time as long as possible to obtain best waveform.

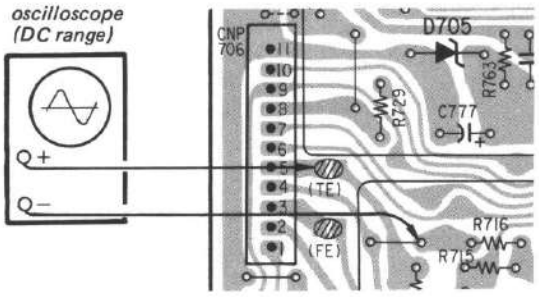



7. Press the ■ key.
8. After adjustment, release service mode (see page 6, 7).

**Adjustment Location:** RF board




– CD main board –



**Focus Bias Adjustment**

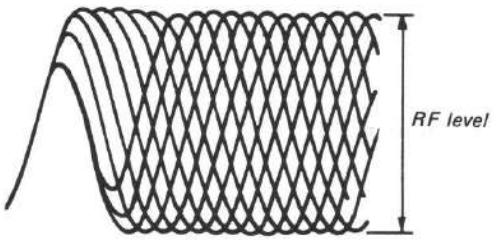
**Conditions:**
The set should be placed either horizontally.

**Adjustment Procedure:**

1. Put the set into service mode (see page 6, 7).
2. Connect the oscilloscope to RF board test point TP (RF).
3. Press the ▶▶| and |◀◀ keys to move the optical pick-up block to the center. (Move the optical pick-up block to the music area on the disc to enable easy visibility of the eye pattern.)
4. Insert the disc (YEDS-18) and close the CD holder.
5. Press the ▶II key.
   ( It will go from focus search to focus on, and CLV pull-in mode state. Tracking and sled are OFF. )
6. Press the REMAIN/ENTER button. (Traking and sled go ON.)
7. Adjust RV702 so that the oscilloscope waveform eye pattern is good. A good eye pattern means that the diamond shape ( ◇ ) in the center of the waveform can be clearly distinguished.

- **RF Signal Reference Waveform (eye pattern)**

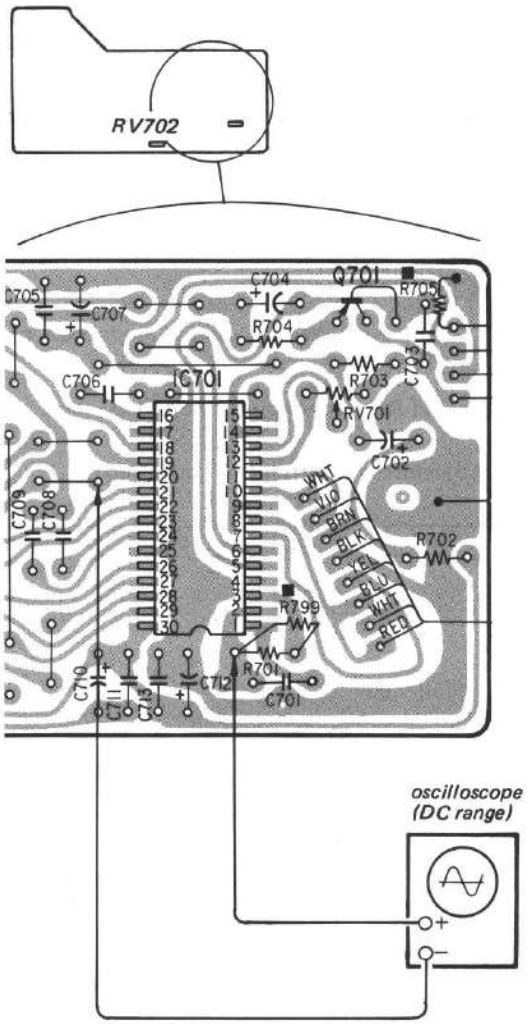
*VOLT/DIV: 200 mV*
*TIME/DIV: 500 nS*




When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

8. Press the ■ key.
9. After adjustment, release service mode (see page 6, 7).

**Adjustment Location:** RF board



REFERENCE

## Focus/Tracking Gain Adjustment

A frequency responce analyzer is necessary in order to perform this adjustment exactly.

However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.

Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate.

However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

| Symptoms \ Gain | Focus | Tracking |
|---|---|---|
| • The time until music starts becomes longer for STOP →▷PLAY or automatic selection (⏮ ⏭ buttons pressed.) (Normally takes about 1 seconds.) | low | low or high |
| • Music does not start and disc continues to rotate for STOP→▷PLAY or automatic selection.(⏮ ⏭ buttons pressed.) | – | low |
| • Disc table opens shortly after STOP→▷PLAY. | low or high | – |
| • Sound is interrupted during PLAY. Or time counter display stops progressing. | – | low |
| • More noise during 2-axis device operation. | high | high |

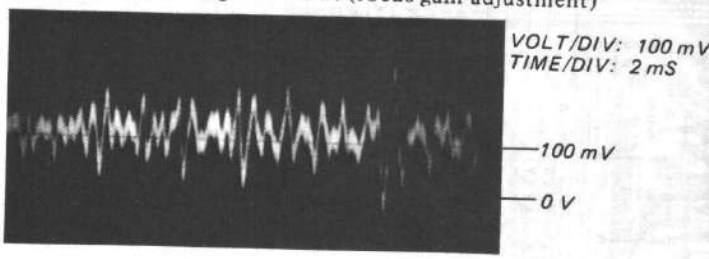
The following is a simple adjustment method.

– Primary Adjustment –

**Note:** Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment. If the positions after the primary adjustment are only a little different, return the controls to the original position.

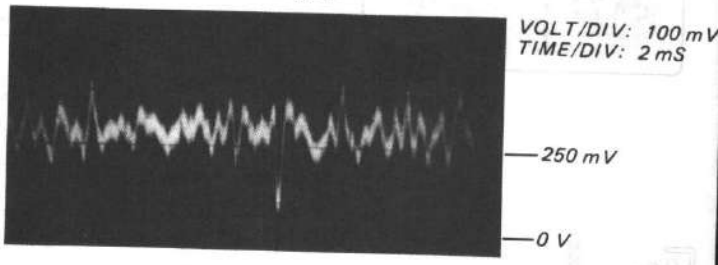
**Procedure:**

1. Keep the set horizontal.
   (If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2 axis device.)
2. Insert disc (YEDS-18) and press ▶ PLAY button.
3. Connect oscilloscope to CD main board TP (FE).
4. Adjustment RV705 so that the waveform is as shown in the figure below. (focus gain adjustment)

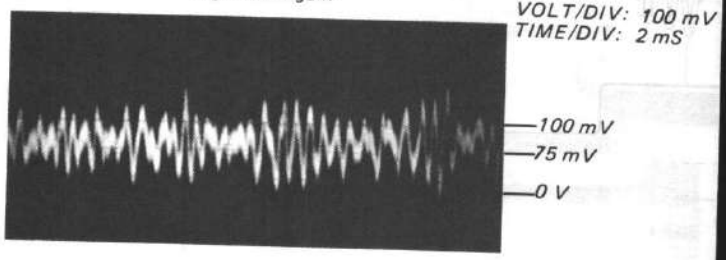



- Incorrent Examples (DC level changes more than on adjusted waveform)

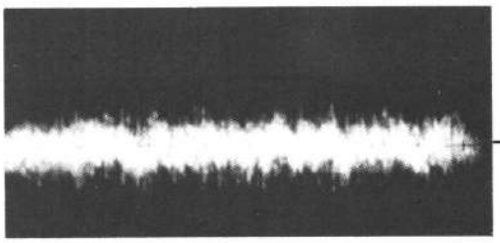
*low focus gain*




*high focus gain*

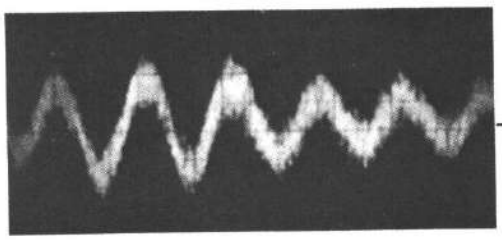



5. Connect oscilloscope to CD main board TP (TE).
6. Adjust RV704 so that the waveform is as shown in the figure below. (tracking gain adjustment)

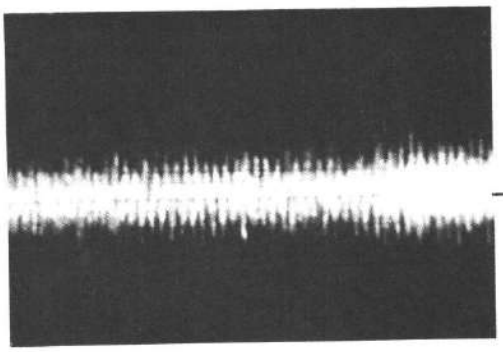



- Incorrect Examples (fundamental wave appears)

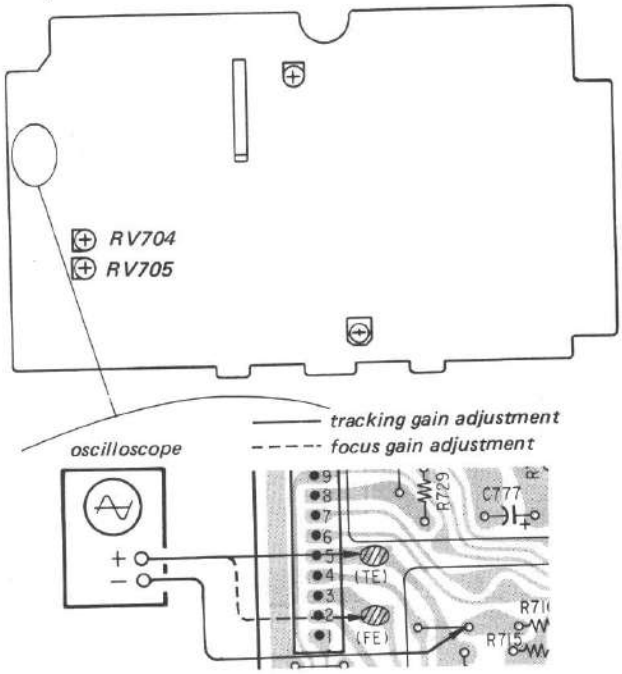
*low tracking gain*




*high tracking gain*
*(higher fundamental wave than for low gain)*

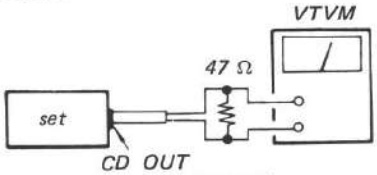



Adjustment Location: CD main board



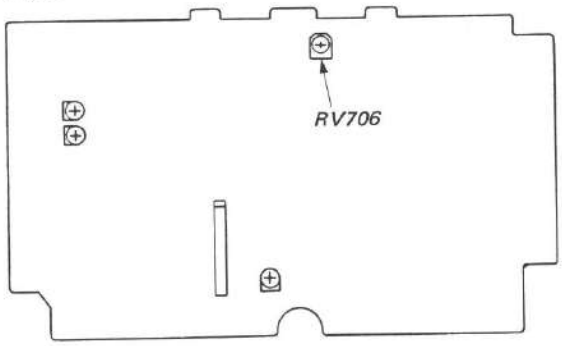

**CD OUT Level Adjustment**

**Procedure:**




1. Insert the disc (YEDS-18).
2. Press the ▶II key.
3. Press the ▶▶I key to play the second selection (1 kHz, 0 dB).
4. Adjust RV706 so that the reading on VTVM is 1.3 to 1.46 V (4.5 to 5.5 V).

**Adjustment Location:** CD main board

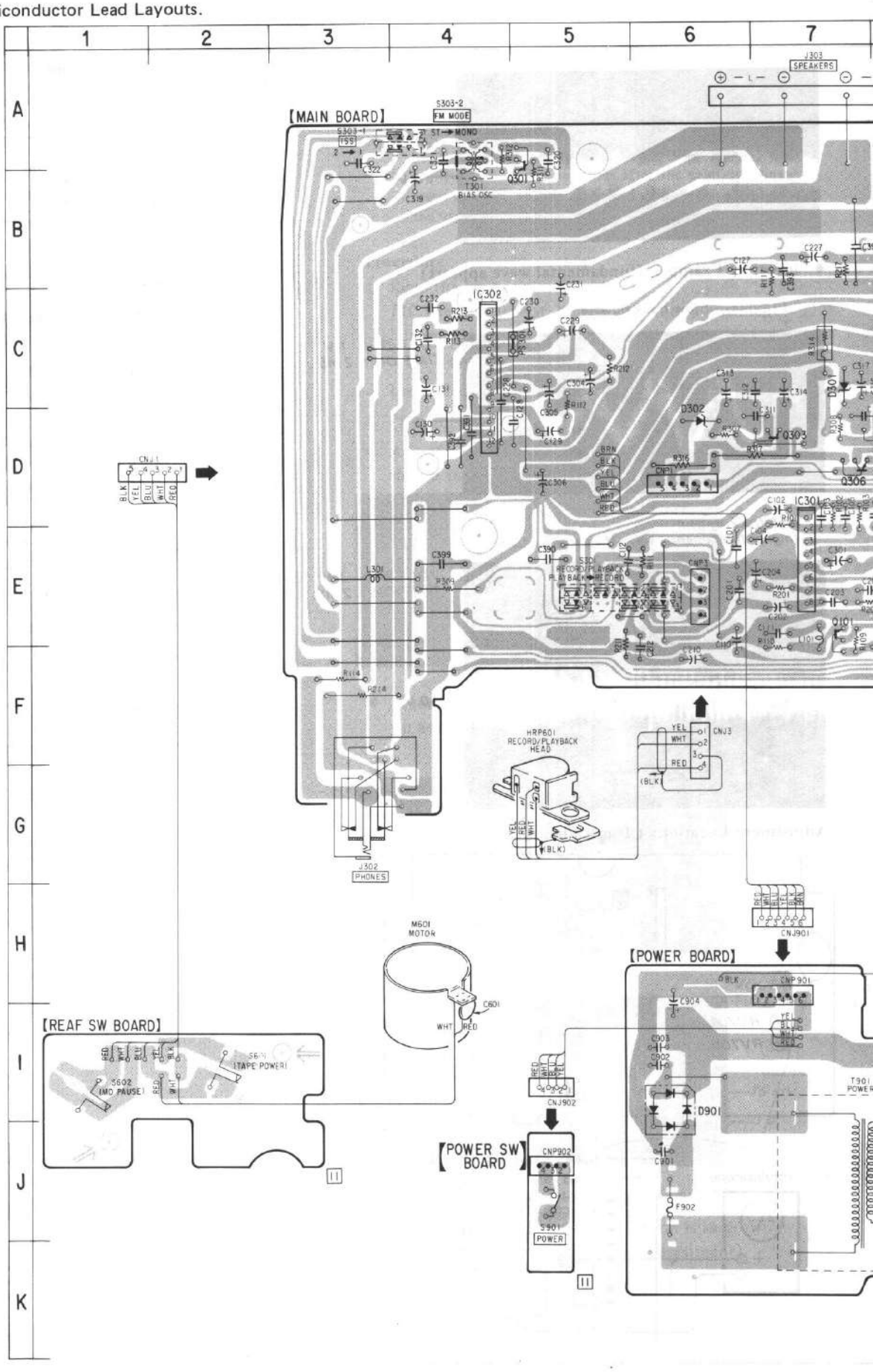


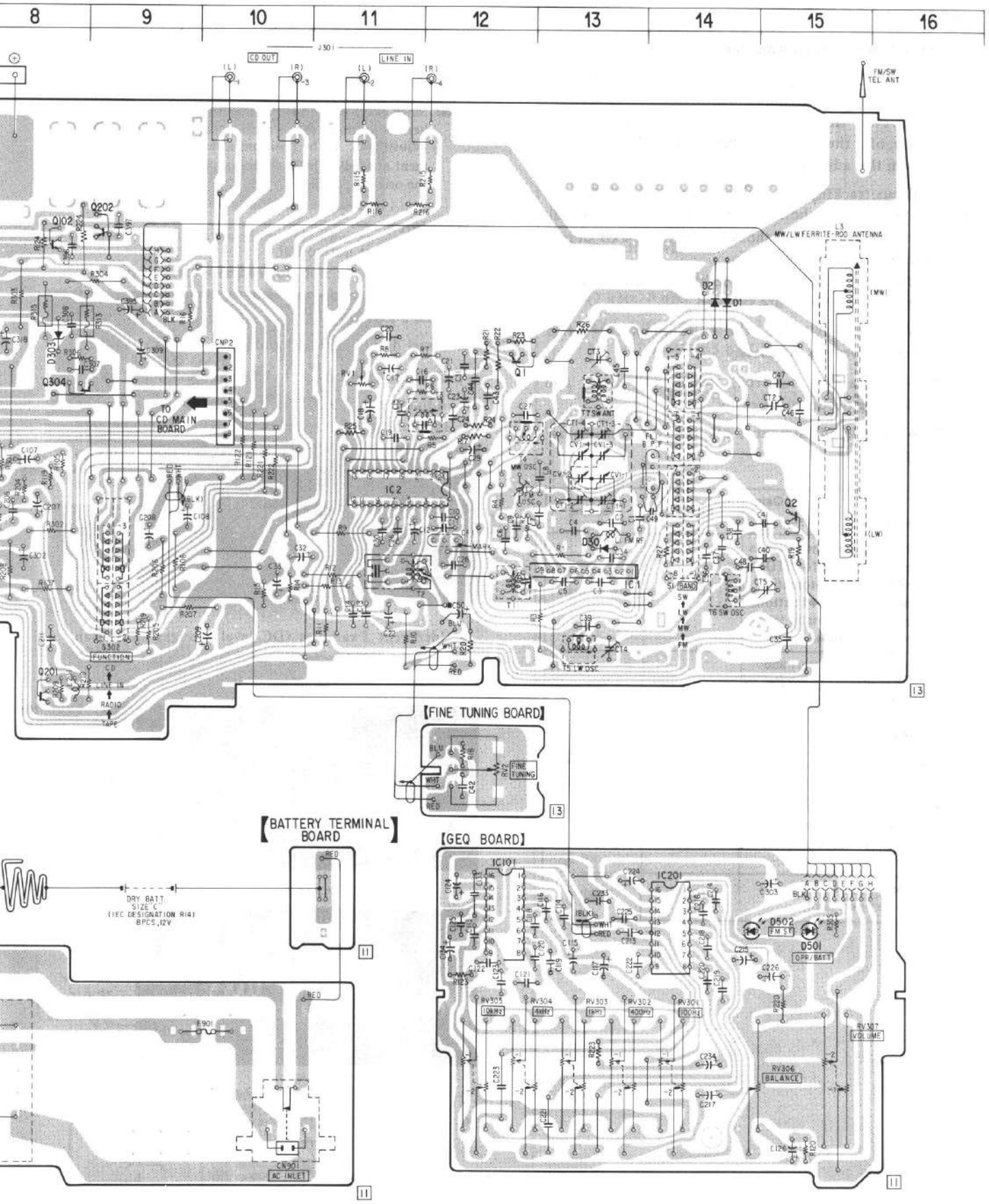
## 4-1. RADIO/RECORDER SECTION MOUNTING DIAGRAM


- See page 27 for notes.
- See page 28 for Semiconductor Lead Layouts.

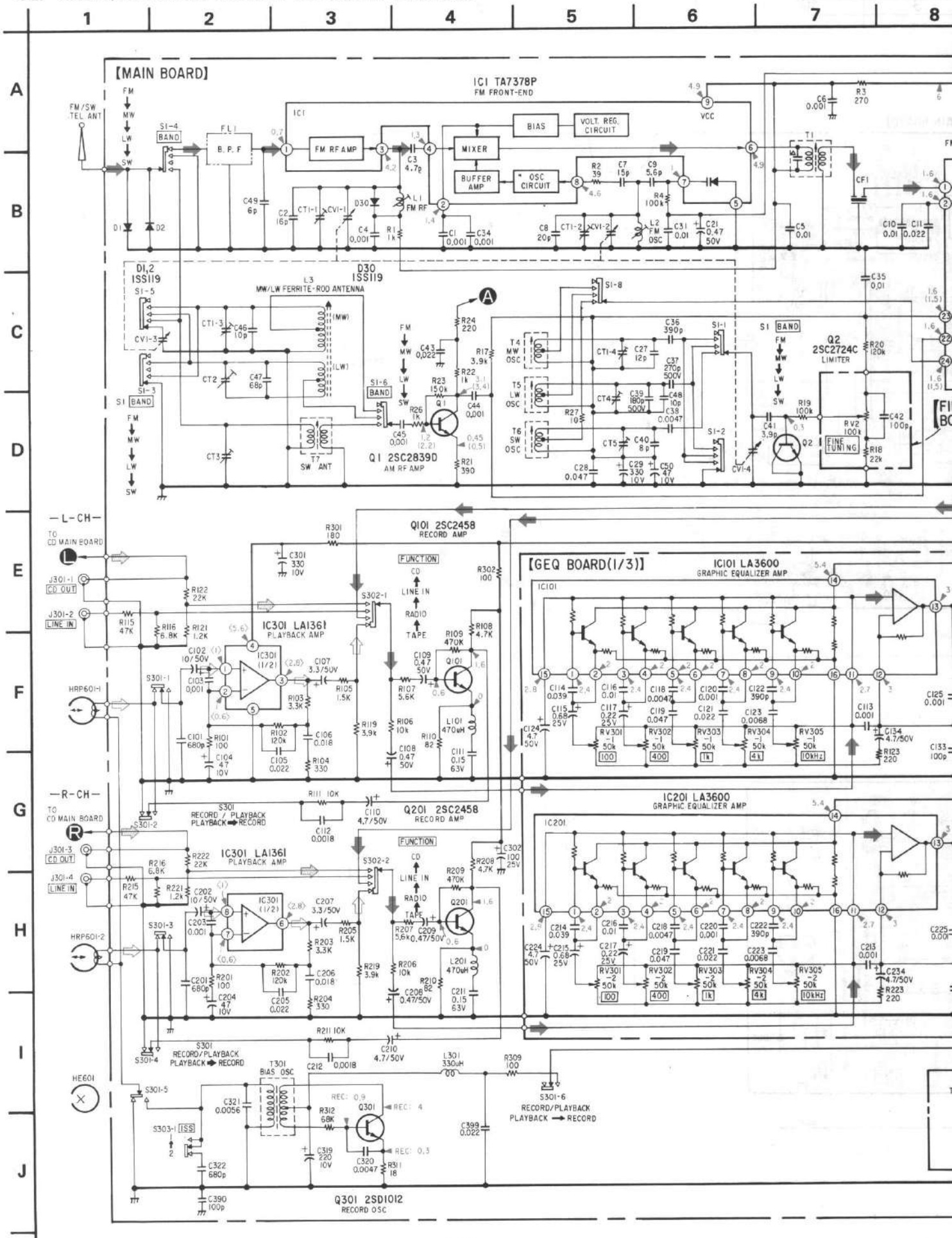

### • SEMICONDUCTOR LOCATION

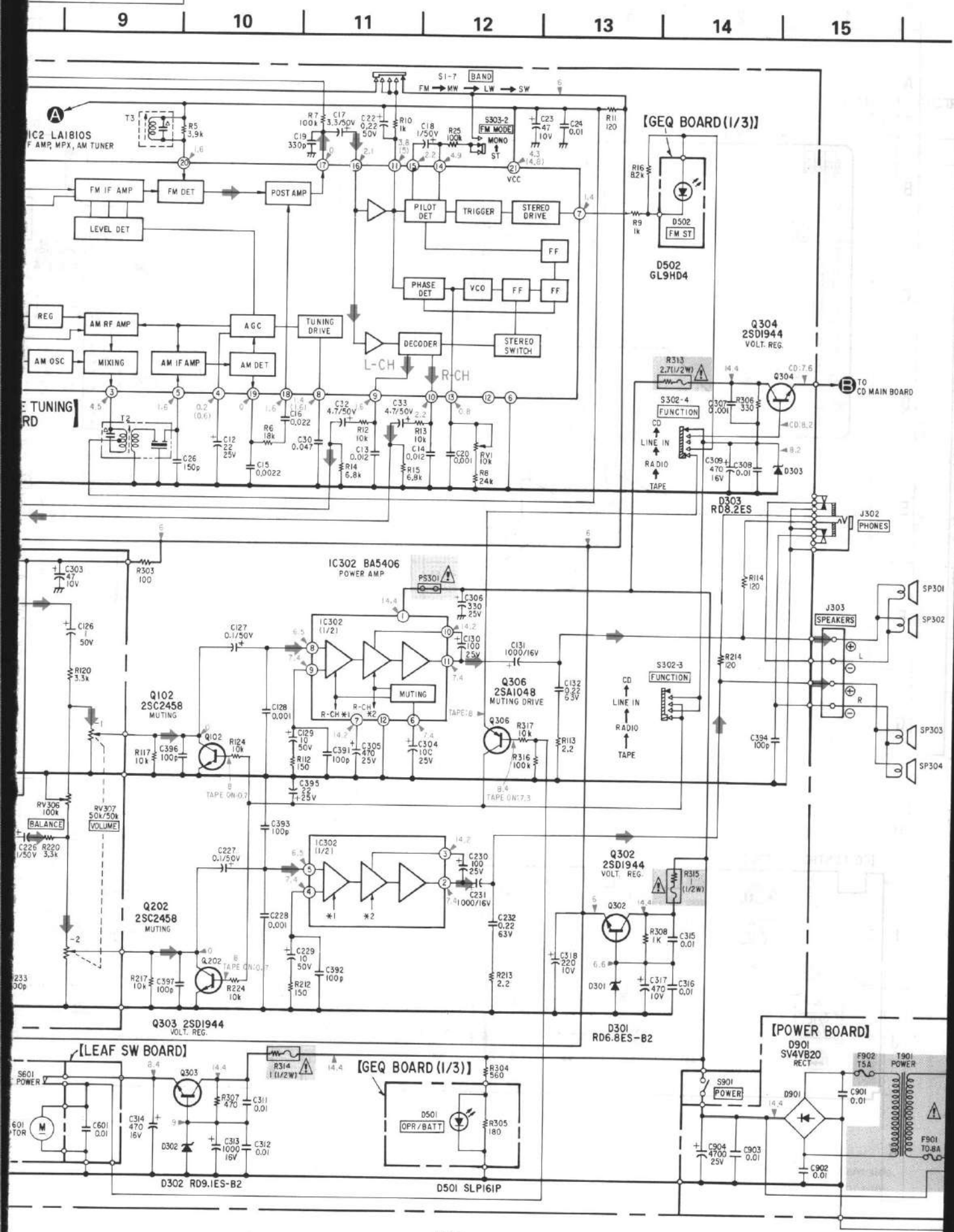
| Ref. No. | Location |
|---|---|
| D1 | C-14 |
| D2 | C-14 |
| D3 | C-14 |
| D4 | C-14 |
| D30 | E-13 |
| D303 | C-7 |
| D302 | D-6 |
| D303 | C-8 |
| D501 | I-15 |
| D502 | I-15 |
| D901 | I-6 |
| IC1 | E-13 |
| IC2 | E-11 |
| IC101 | H-12 |
| IC201 | H-14 |
| IC301 | D-7 |
| IC302 | C-4 |
| Q1 | D-12 |
| Q2 | E-15 |
| Q101 | E-7 |
| Q102 | B-8 |
| Q201 | F-8 |
| Q202 | B-9 |
| Q301 | B-5 |
| Q302 | D-8 |
| Q303 | D-7 |
| Q304 | D-8 |
| Q306 | D-7 |




8
9
10
11
12
13
14
15
16
CD OUT
LINE IN
FM/SW TEL ANT
L3 MW/LW FERRITE-ROD ANTENNA
TO CD MAIN BOARD
IC1
IC2
IC101
IC201
FUNCTION
CD
LINE IN
RADIO
TAPE
[FINE TUNING BOARD]
FINE TUNING
[BATTERY TERMINAL BOARD]
DRY BATT SIZE C (IEC DESIGNATION R14) 8PCS,12V
[GEQ BOARD]
D501 OPR/BATT
D502 FM ST
RV305 10kHz
RV304 4kHz
RV303 1kHz
RV302 400Hz
RV301 100Hz
RV306 BALANCE
RV307 VOLUME
CN901 AC INLET
F901

## 4-2. RADIO/RECORDER SECTION SCHEMATIC DIAGRAM




9
10
11
12
13
14
15
S1-7 BAND
FM → MW → LW → SW
IC2 LA1810S
F AMP, MPX, AM TUNER
FM IF AMP
FM DET
POST AMP
LEVEL DET
PILOT DET
TRIGGER
STEREO DRIVE
FF
PHASE DET
VCO
FF
FF
REG
AM RF AMP
AGC
TUNING DRIVE
AM OSC
MIXING
AM IF AMP
AM DET
DECODER
STEREO SWITCH
L-CH
R-CH
S303-2 FM MODE
MONO
ST
VCC
[GEQ BOARD (1/3)]
D502 FM ST
D502 GL9HD4
Q304 2SD1944 VOLT. REG.
TO CD MAIN BOARD
S302-4 FUNCTION
CD
LINE IN
RADIO
TAPE
D303 RD8.2ES
J302 PHONES
J303 SPEAKERS
SP301
SP302
SP303
SP304
IC302 BA5406 POWER AMP
PS301
IC302 (1/2)
IC302 (1/2)
MUTING
R-CH *1
R-CH *2
Q306 2SA1048 MUTING DRIVE
S302-3 FUNCTION
Q102 2SC2458 MUTING
Q202 2SC2458 MUTING
TAPE ON
RV306 100k BALANCE
RV307 50k/50k VOLUME
Q303 2SD1944 VOLT. REG.
D301 RD6.8ES-B2
Q302 2SD1944 VOLT. REG.
[LEAF SW BOARD]
S601 POWER
[GEQ BOARD (1/3)]
D501 OPR/BATT
D501 SLP161P
D302 RD9.1ES-B2
[POWER BOARD]
D901 SV4VB20 RECT
S901 POWER
F902 T5A
T901 POWER
F901 T0.8A

**Note on Schematic Diagram:**

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- : fusible resistor.
- Switch with sliding contact indicated by hatched lines shows shorting type.

- : B+ bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (50 kΩ/V).
  no mark: FM mode
  ( ): AM mode
  < >: TAPE mode
- Voltage variations may be noted due to normal production tolerances.
  : FM signal path.
  : CD signal path.
  : TAPE signal path.

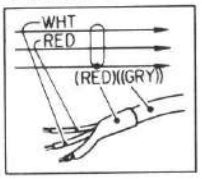
- Switch

| Ref. No. | Switch | Position |
|---|---|---|
| S1 | BAND | FM |
| S301 | Record/Playback | playback |
| S302 | FUNCTION | CD |
| S303 | ISS/FM MODE | 2/ST |
| S601 | TAPE POWER | OFF |
| S901 | POWER | OFF |

**Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.**

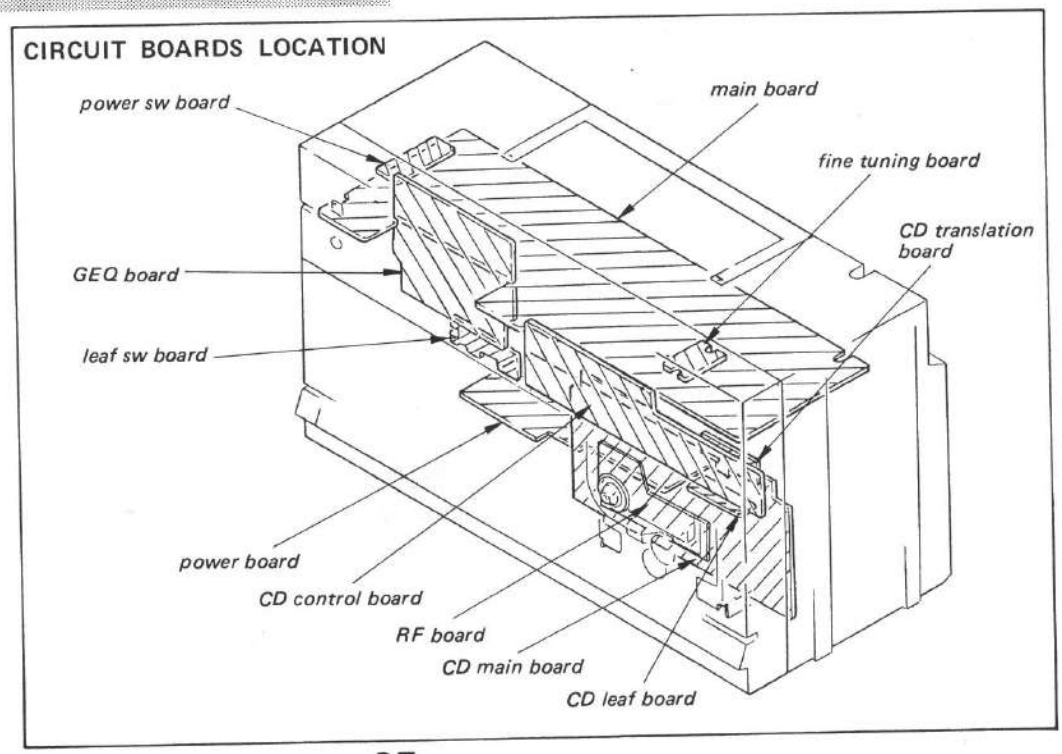
**Note on Mounting Diagram:**

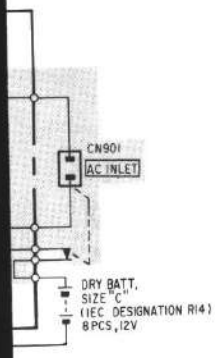
- Color code or sleeving over the end of the jacket.




- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.
- ■ : part mounted on the conductor side.
- : indicates side identified with part number.

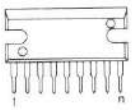
## CIRCUIT BOARDS LOCATION



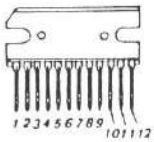



## • Semiconductor Lead Layouts

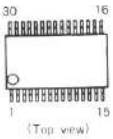
**BA5406**



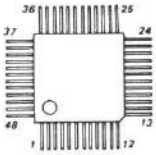
**BA6290A**



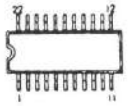

**CXA1081M**



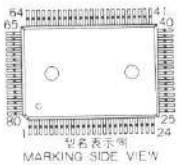

**CXA1082AQ**



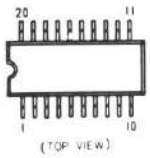

**CXA1083M**



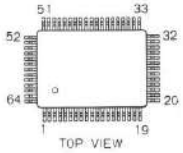

**CXD1130Q**



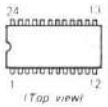

**CXD1140AM**



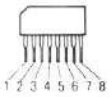

**CXP5024H-027Q**



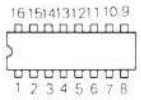

**LA1810S**




**LA3161**

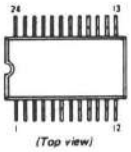



**LA3600**

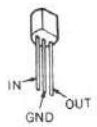



**LA5005**

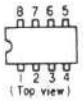
**LC3516AML-15**




**M51951BSL**




**M5218P**



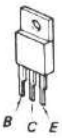

**TA7378P**

**2SA1048-GR**
**2SC634SP**
**2SC2724C**
**2SC2839-D**
**2SD1012**
**DTA124ES**
**DTC124ES**

**2SB1013**

**2SC2278**

**2SD1266-Q**

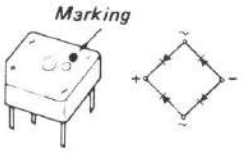



**2SD1944**

**1SS119**
**1SS133**
**RD6.8ES-B2**
**RD8.2ES-B2**
**RD9.1ES-B2**
**RD11ES-B2**

**11DQ04**
**HZ6B2L**

**S4VB60**



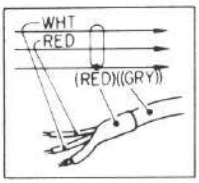

**SLP161B**

## • SEMICONDUCTO LOCATION

| Ref. No. | Location |
|---|---|
| D701 | C-8 |
| D703 | C-8 |
| D703 | C-8 |
| D704 | C-8 |
| D705 | C-9 |
| D706 | C-10 |
| D707 | C-10 |
| D720 | D-12 |
| D798 | E-8 |
| D799 | E-8 |
| D801 | J-4 |
| D802 | J-3 |
| D803 | J-3 |
| D804 | J-3 |
| D805 | H-9 |
| D806 | J-10 |
| IC701 | B-4 |
| IC702 | D-12 |
| IC703 | C-14 |
| IC704 | D-14 |
| IC705 | E-13 |
| IC706 | E-10 |
| IC707 | C-9 |
| IC708 | C-11 |
| IC709 | E-10 |
| IC801 | I-10 |
| IC802 | I-8 |
| Q701 | B-5 |
| Q702 | C-13 |
| Q703 | C-13 |
| Q704 | F-10 |
| Q705 | E-10 |
| Q706 | F-10 |
| Q707 | E-10 |
| Q708 | E-11 |
| Q709 | F-9 |
| Q710 | F-9 |
| Q711 | C-10 |
| Q712 | D-9 |
| Q801 | H-9 |
| Q802 | I-3 |

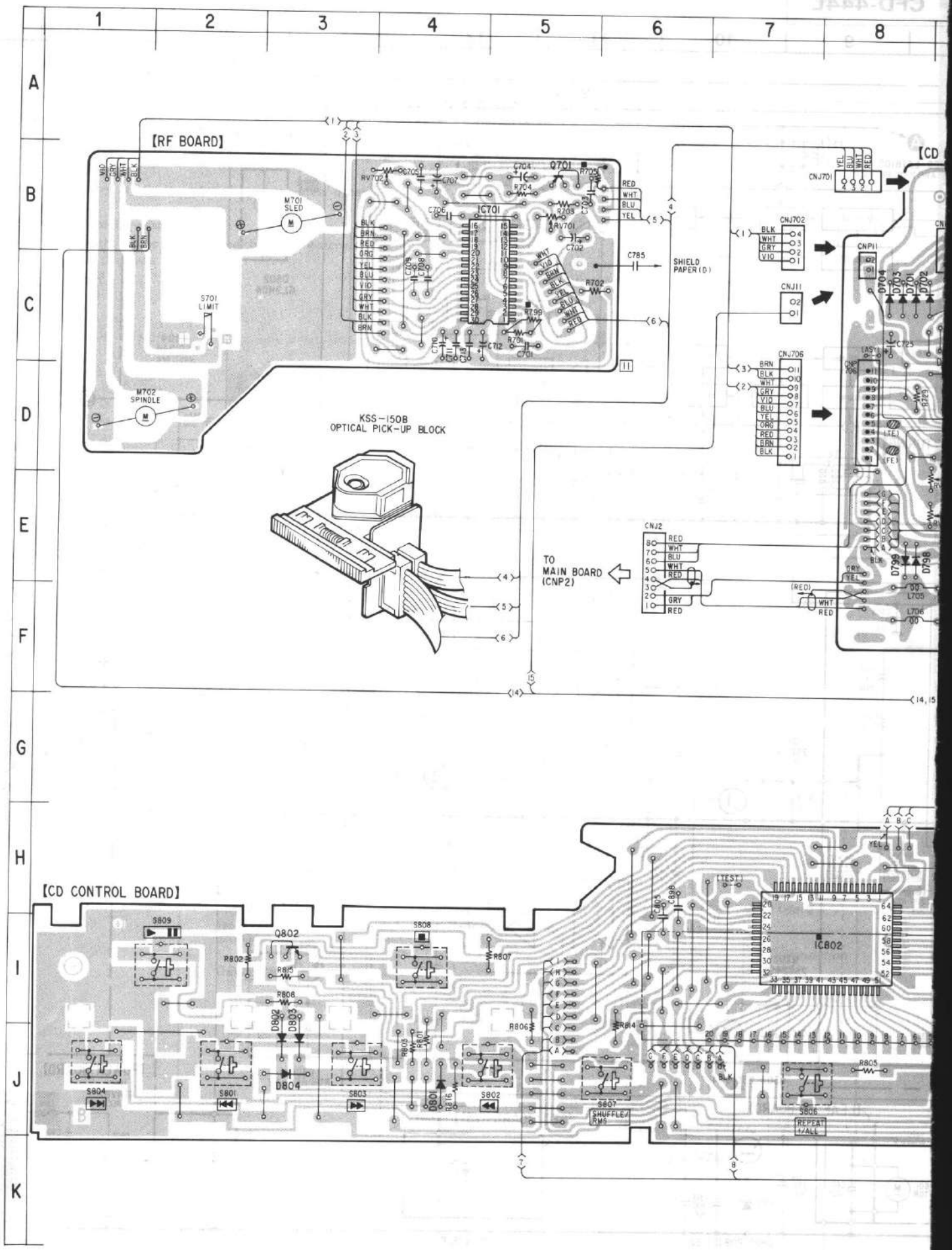
**Note:**

- Color code or sleeving over the end of the jacket.

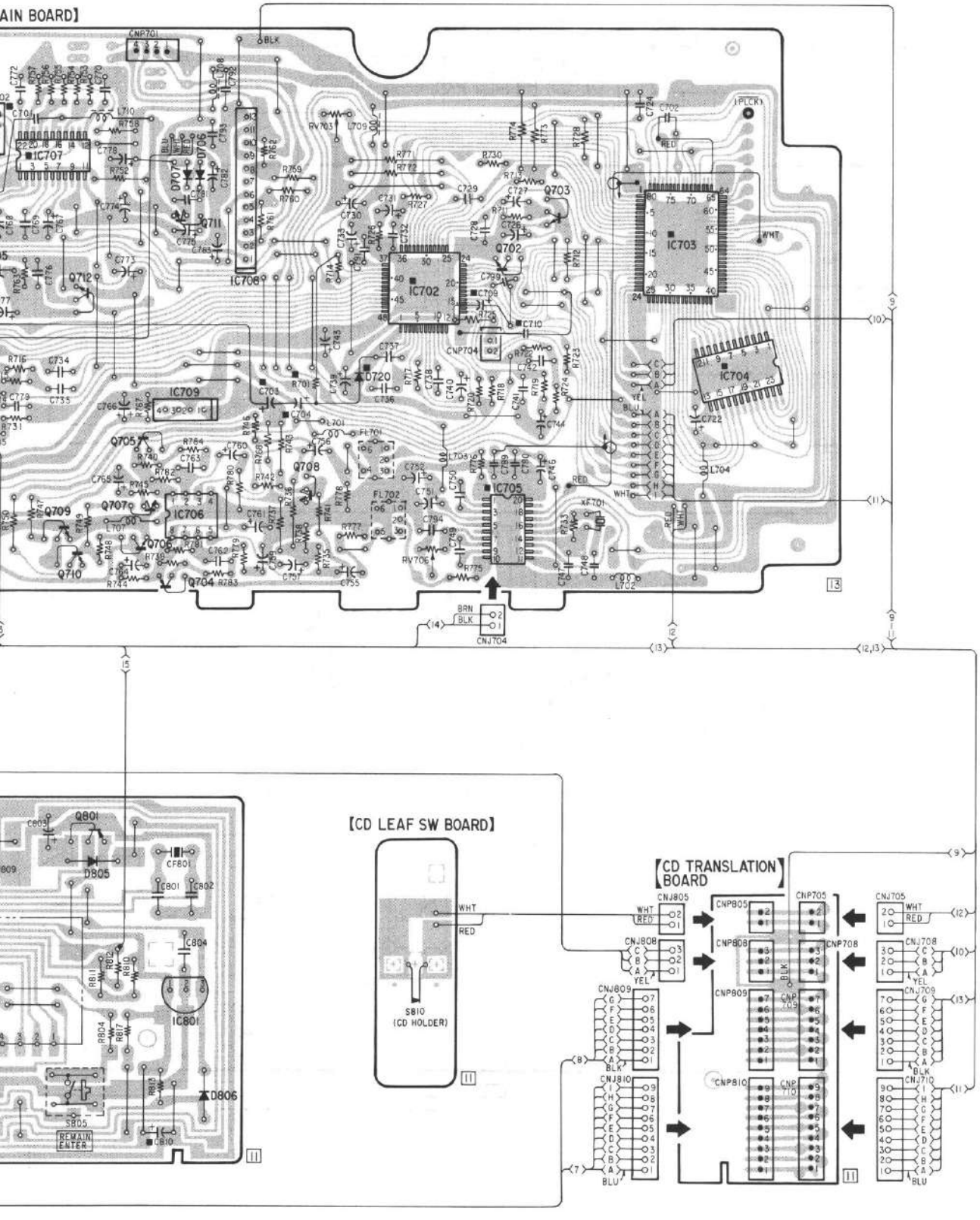



- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.
- ■ : part mounted on the conductor side.
- [ ]— : indicates side identified with part number.

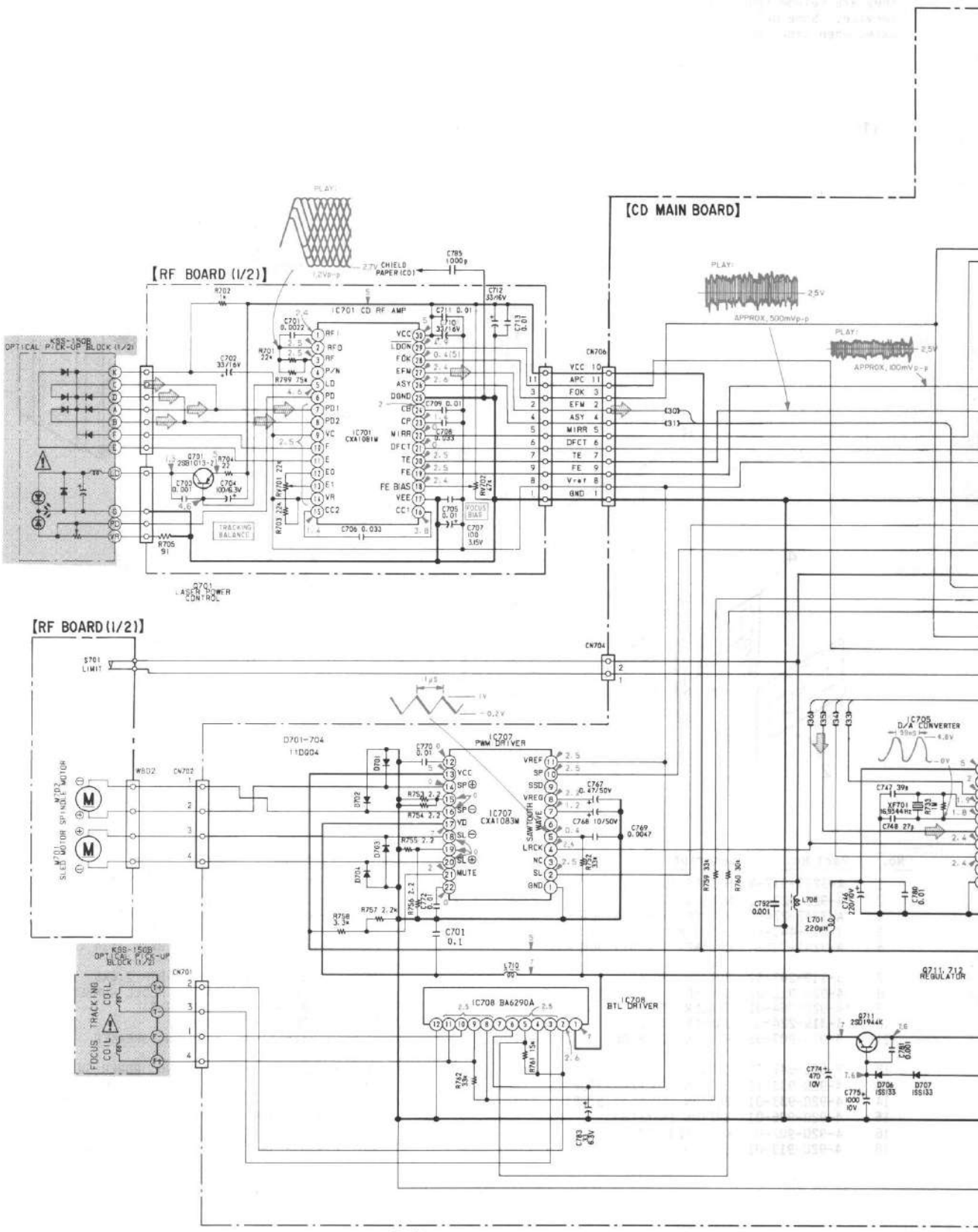
## 4-3. CD SECTION MOUNTING DIAGRAM

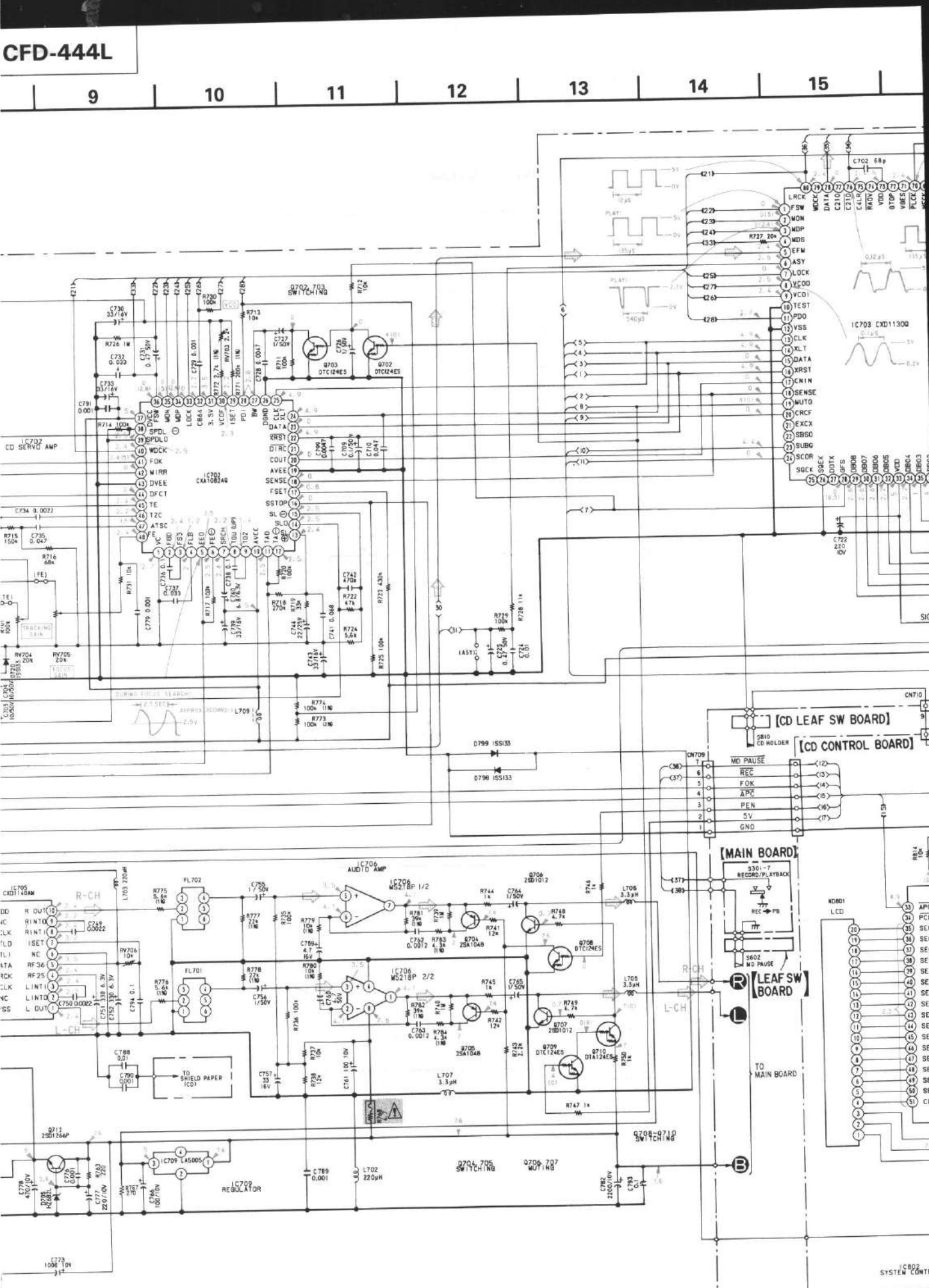


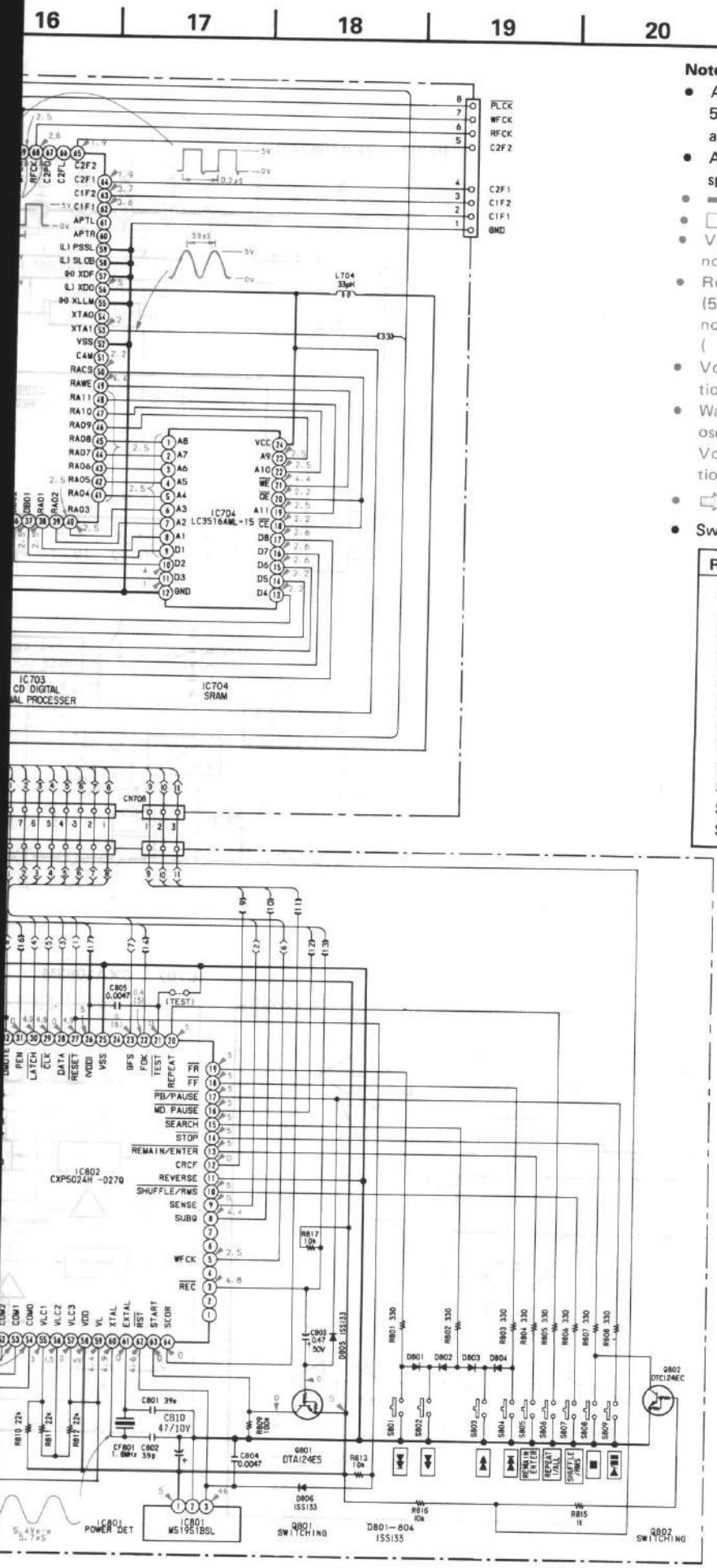
| 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|



Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.




9
10
11
12
13
14
15
IC702
CD SERVO AMP
IC703
CXA1082AQ
Q702, 703
SWITCHING
IC703 CXD1130Q
[CD LEAF SW BOARD]
[CD CONTROL BOARD]
CN709
CN710
MD PAUSE
REC
FOK
APC
PEN
5V
GND
[MAIN BOARD]
S301-7
RECORD/PLAYBACK
S602
MD PAUSE
[LEAF SW BOARD]
TO MAIN BOARD
IC706
AUDIO AMP
M5218P 1/2
M5218P 2/2
R-CH
L-CH
IC709
REGULATOR
Q706-Q710
SWITCHING
Q704, 705
SWITCHING
Q706, 707
MUTING
TO SHIELD PAPER (CD)
IC802
SYSTEM CONTROL



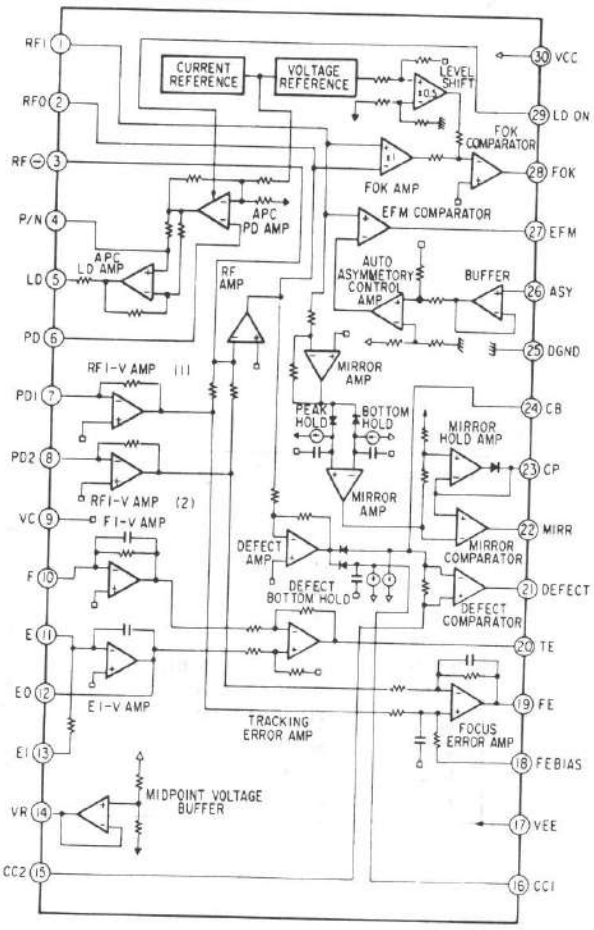

**Note:**

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- ▬▬ : B+ bus.
- ▭ : adjustment for repair.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under service mode with a VOM (50 kΩ/V).
  no mark : STOP
  ( ) : PLAY
- Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken to ground in service mode by using oscilloscope.
  Voltage variations may be noted due to normal production tolerance.
- ⇨ : CD signal path
- Switch

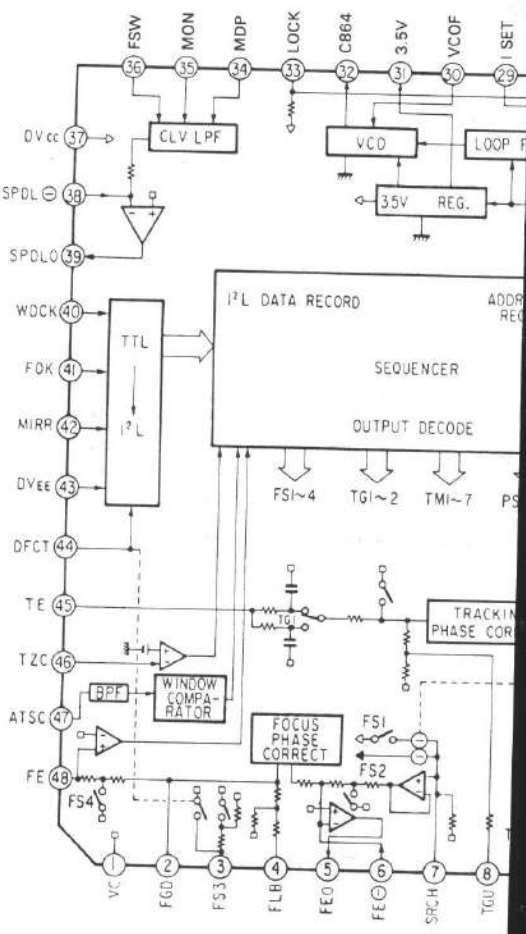
| Ref. No. | Switch | Position |
|---|---|---|
| S602 | MD pause | OFF |
| S701 | LIMIT IN | OFF |
| S801 | ⏮ | OFF |
| S802 | ◀◀ | OFF |
| S803 | ▶▶ | OFF |
| S804 | ▶▶⏭ | OFF |
| S805 | REMAIN/ENTER | OFF |
| S806 | REPEAT 1/ALL | OFF |
| S807 | SHUFFLE/RMS | OFF |
| S808 | ■ | OFF |
| S809 | ▶/❚❚ | OFF |
| S810 | CD HOLDER | ON |

## 4-5. IC BLOCK DIAGRAMS

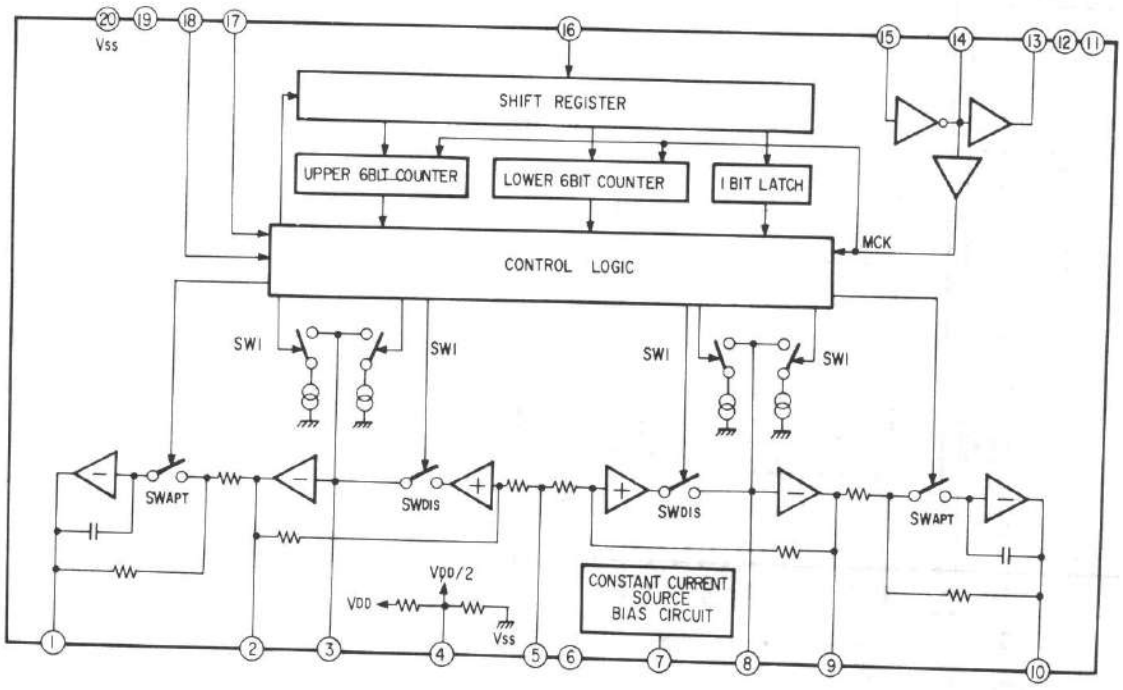
### IC701 CXA1081M



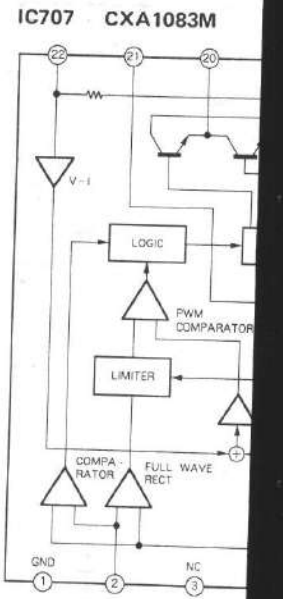

### IC702 CXA1082AQ

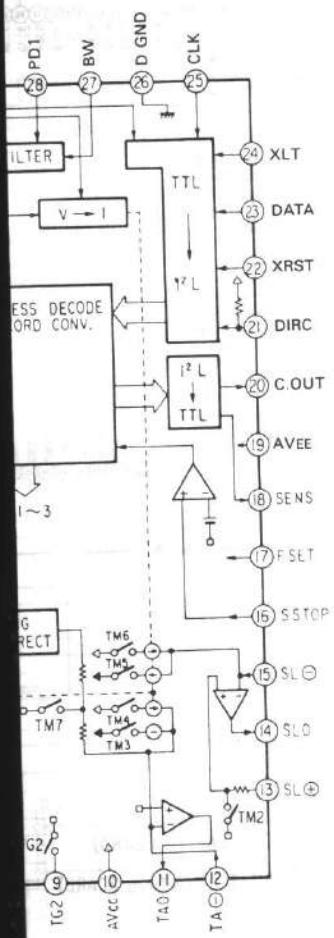



### IC705 CXD1140AM

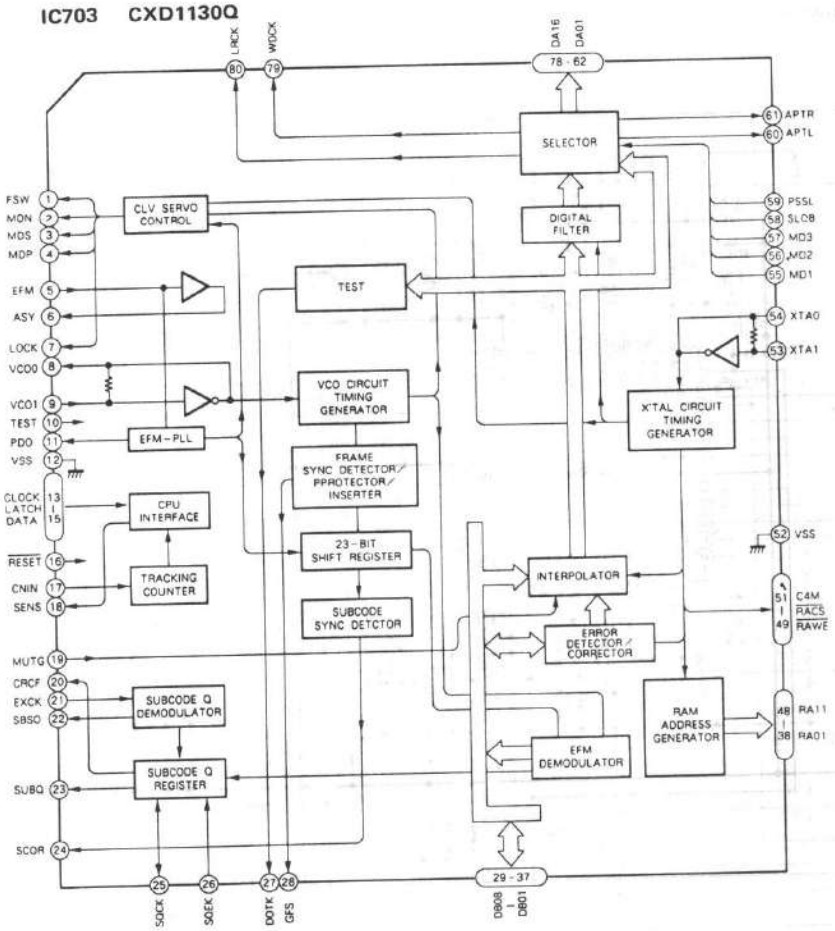



### IC707 CXA1083M

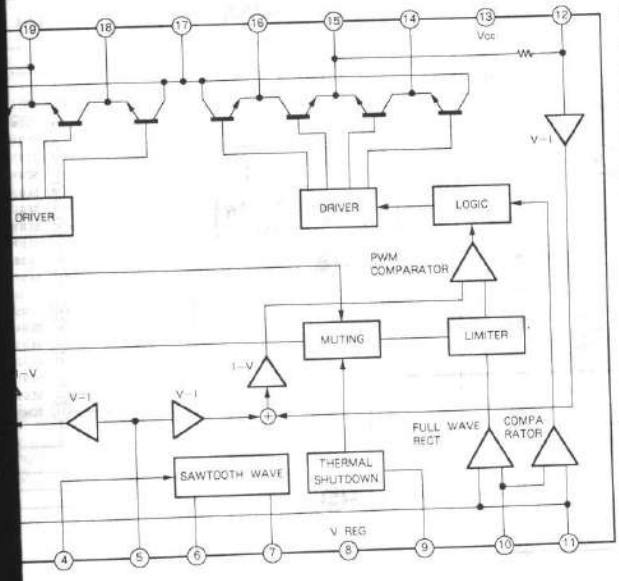


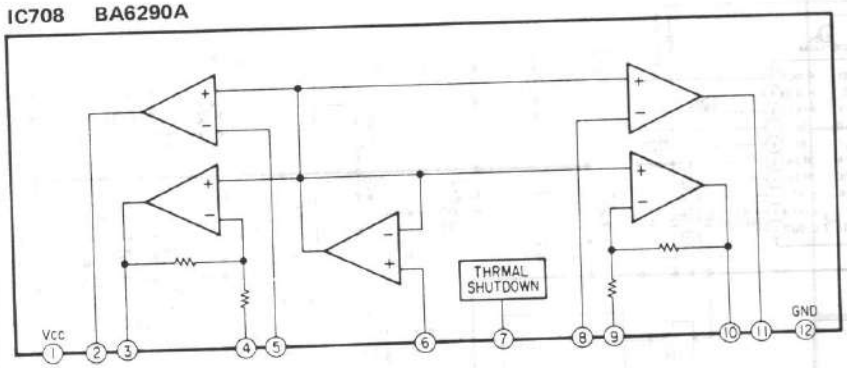



**IC703 CXD1130Q**




**IC708 BA6290A**



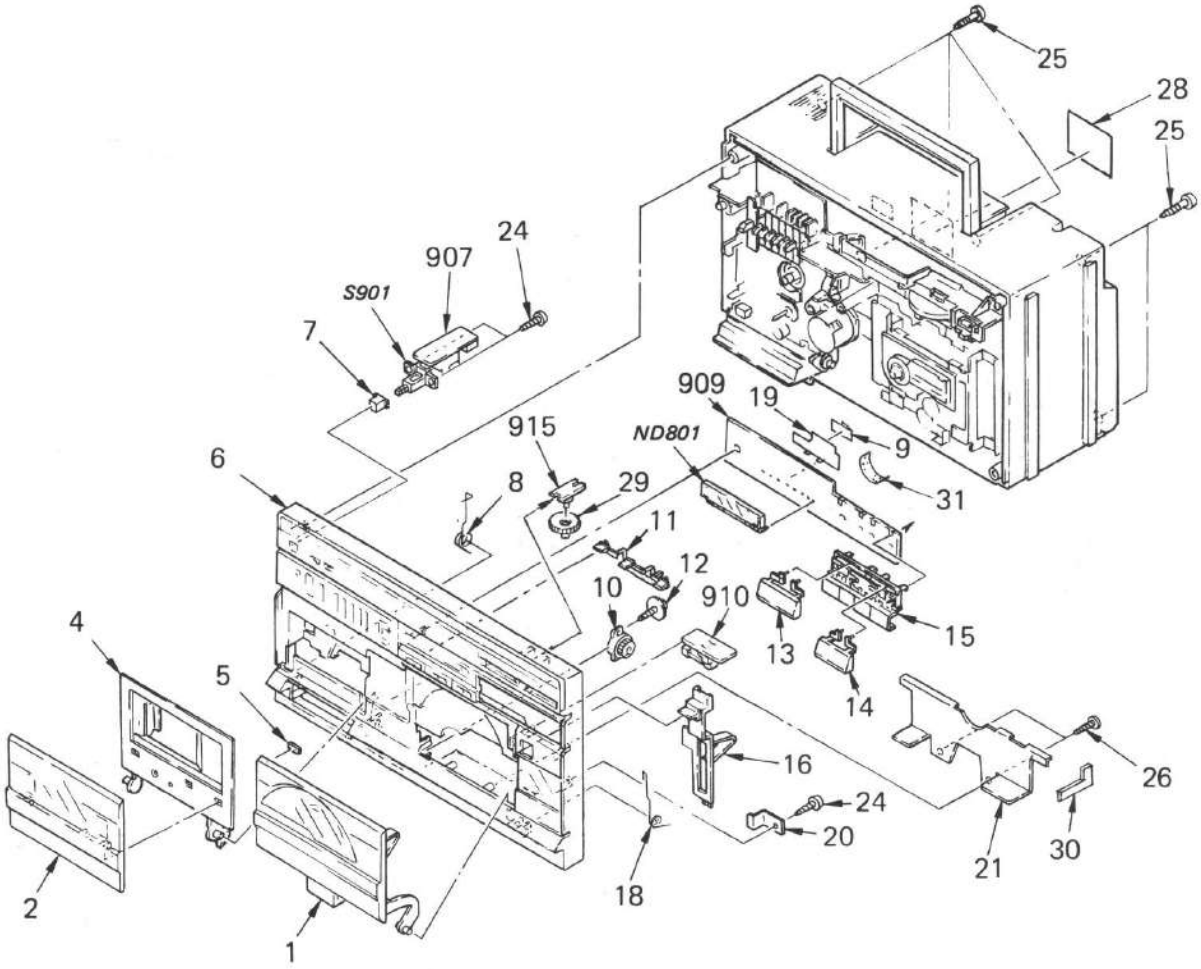
# SECTION 5
# EXPLODED VIEWS AND PARTS LIST

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

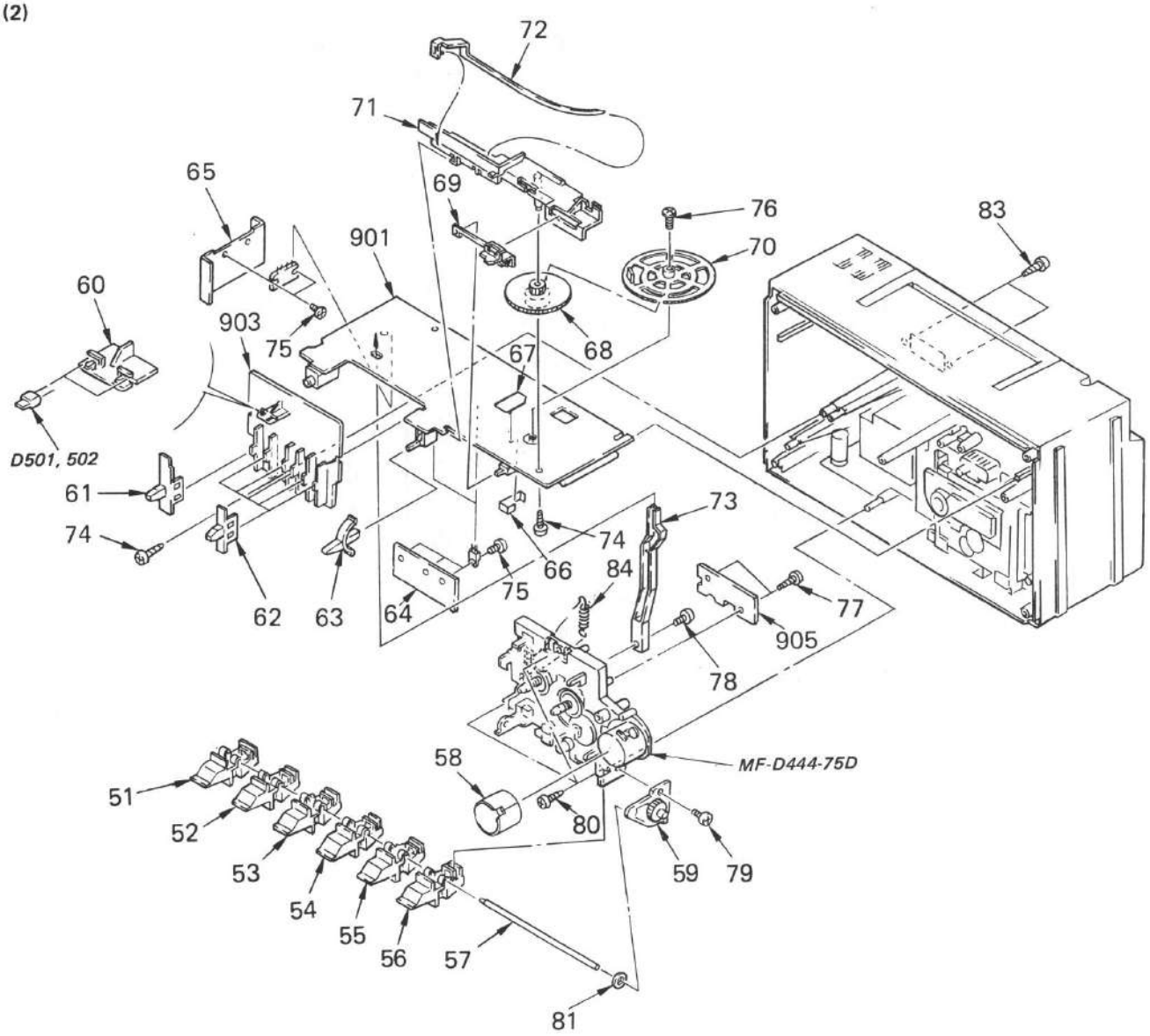
(1)




| No. | Part No. | Description | Remarks |
|---|---|---|---|
| 1 | A-3235-537-A | HOLDER ASSY, CD | |
| 2 | 4-920-922-01 | WINDOW, CASSETTE | |
| 4 | A-3247-274-A | HOLDER ASSY, CASSETTE | |
| 5 | 3-831-441-XX | CUSHION | |
| 6 | A-3241-738-A | CABINET (FRONT) SUB ASSY | |
| 7 | 3-319-263-41 | BUTTON, POWER | |
| 8 | 4-920-912-01 | SPRING | |
| 9 | *4-920-964-01 | SPACER (CD 1) | |
| 10 | 3-319-224-31 | DAMPER, SMALL | |
| 11 | 4-920-907-01 | BUTTON (CD MODE) | |
| 12 | 7-685-647-79 | SCREW (+ PTP DIA.12 WH 3) | |
| 13 | 4-920-933-11 | BUTTON (CD PLAY/STOP) | |
| 14 | 4-920-933-01 | BUTTON (CD PLAY/STOP) | |
| 15 | 4-920-906-01 | BUTTON (SEARCH) | |
| 16 | 4-920-902-01 | KNOB (EJECT) | |
| 18 | 4-920-913-01 | SPRING | |

| No. | Part No. | Description | Remarks |
|---|---|---|---|
| 19 | *4-920-950-01 | PLATE (C), SHIELD | |
| 20 | *4-920-955-01 | RETAINER | |
| 21 | 4-920-914-01 | COVER (P), CD | |
| 24 | 7-685-648-79 | SCREW, TAPPING | |
| 25 | 7-685-649-79 | SCREW +BVTP 3X14 TYPE2 N-S | |
| 26 | 7-685-133-19 | SCREW +BTP 2.6X6 TYPE2 N-S | |
| 28 | *4-920-945-01 | LABEL, MODEL NUMBER (AE1) | |
| 29 | 4-920-952-01 | KNOB (F.T) | |
| 30 | 4-920-968-01 | STOPPER | |
| 31 | 3-831-441-XX | CUSHION, SPEAKER | |
| 907 | *1-622-771-21 | PC BOARD, POWER SW | |
| 909 | *1-622-773-11 | PC BOARD, CD CONTROL | |
| 910 | *1-622-774-11 | PC BOARD, CD LEAF SW | |
| 915 | *1-623-899-11 | PC BOARD, FINE TUNING | |
| ND801 | 1-807-702-21 | DISPLAY PANEL, LIQUID CRYSTAL | |
| S901 | 1-553-318-31 | SWITCH, PUSH (POWER)(1 KEY) | |

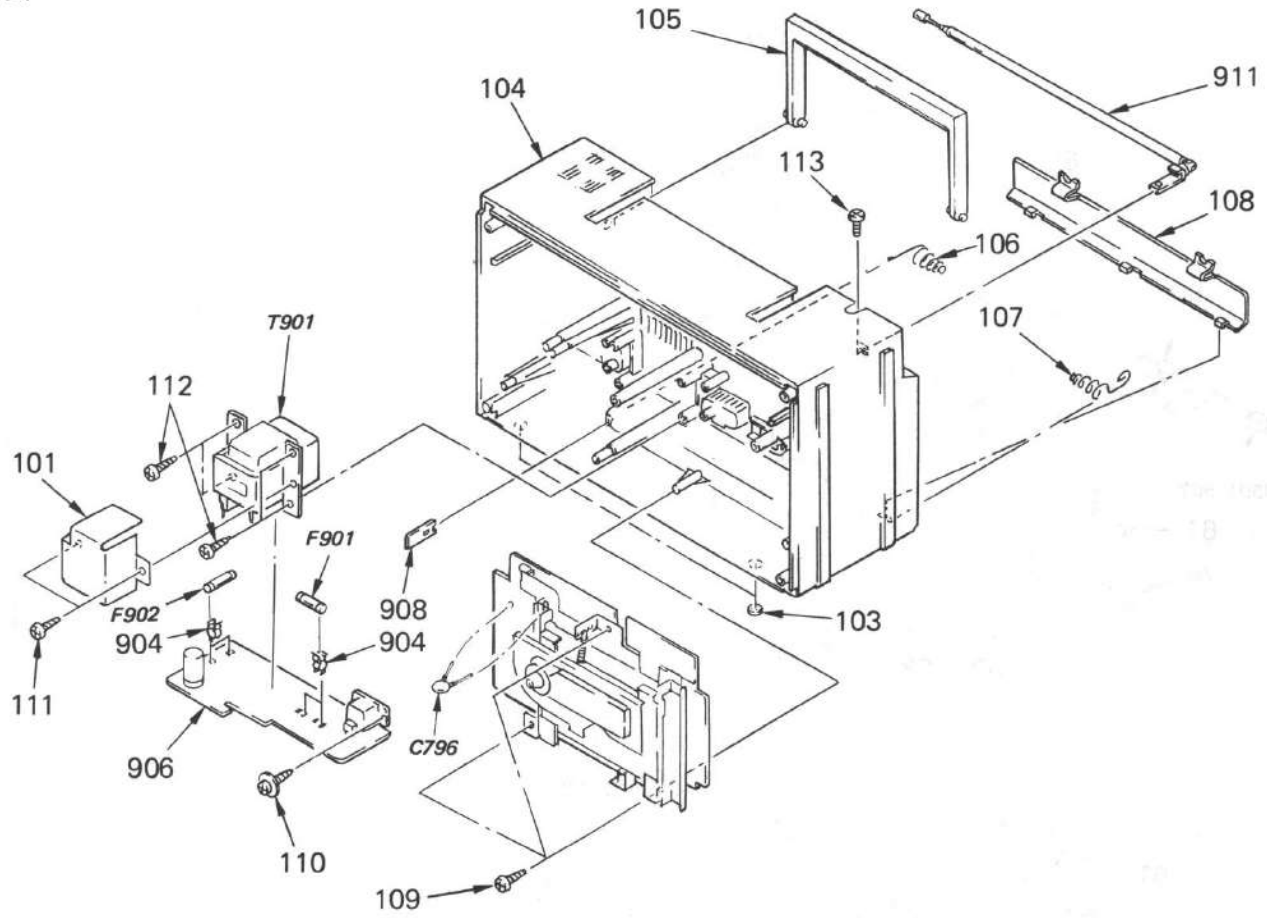
(2)




| No. | Part No. | Description | Remarks |
|---|---|---|---|
| 51 | 3-319-530-01 | BUTTON, S/E | |
| 52 | 3-319-531-01 | BUTTON, REC | |
| 53 | 3-319-532-01 | BUTTON, PLAY | |
| 54 | 3-319-533-01 | BUTTON, REW | |
| 55 | 3-319-534-01 | BUTTON, FF | |
| 56 | 3-319-535-01 | BUTTON, PAUSE | |
| 57 | 3-319-513-01 | SHAFT, MD BUTTON | |
| 58 | *3-319-940-01 | PLATE, SHIELD, MOTOR | |
| 59 | X-3319-501-1 | EJECT ASSY, SOFT | |
| 60 | 4-920-916-01 | HOLDER, LED | |
| 61 | 4-920-929-01 | KNOB (VOLUME) | |
| 62 | 4-920-918-01 | KNOB (GEQ) | |
| 63 | 3-323-803-41 | KNOB, BAND SELECTION | |
| 64 | *4-920-917-01 | HEAT SINK (B) | |
| 65 | *4-920-911-01 | HEAT SINK (A) | |
| 66 | *4-920-947-01 | PLATE (A), SHIELD | |
| 67 | *4-920-951-01 | PLATE (B), SHIELD | |
| 68 | 4-920-926-01 | KNOB (TU) | |
| 69 | 4-920-928-01 | LEVER, BAND SELECTION | |

| No. | Part No. | Description | Remarks |
|---|---|---|---|
| 70 | 3-326-401-01 | DRUM, TUNING CAPACITOR | |
| 71 | 4-920-925-01 | CHASSIS, T.U | |
| 72 | 4-920-927-01 | RACK, POINTER | |
| 73 | 4-920-908-01 | LEVER, REC SW FUNCTION | |
| 74 | 7-685-648-79 | SCREW, TAPPING | |
| 75 | 7-682-548-04 | SCREW +B 3X8 | |
| 76 | 7-621-259-35 | SCREW +P 2.6X5 | |
| 77 | 7-685-133-19 | SCREW +BTP 2.6X6 TYPE2 N-S | |
| 78 | 7-621-259-45 | SCREW +BVTT 2.6X6 (S) | |
| 79 | 7-682-144-01 | SCREW +P 3X3 | |
| 80 | 7-685-649-79 | SCREW +BVTP 3X14 TYPE2 N-S | |
| 81 | 3-701-443-11 | WASHER | |
| 83 | 7-685-647-79 | SCREW +BTP 3X10 TYPE2 N-S | |
| 84 | 3-313-349-00 | SPRING, TENSION | |
| 901 | *A-3260-656-A | MOUNTED PCB, MAIN | |
| 903 | *A-3260-677-A | MOUNTED PCB, GEQ | |
| 905 | *1-622-767-11 | PC BOARD, LEAF SW | |
| D501 | 8-719-901-96 | DIODE SLP161B | |
| D502 | 8-719-901-96 | DIODE SLP161B | |

(3)

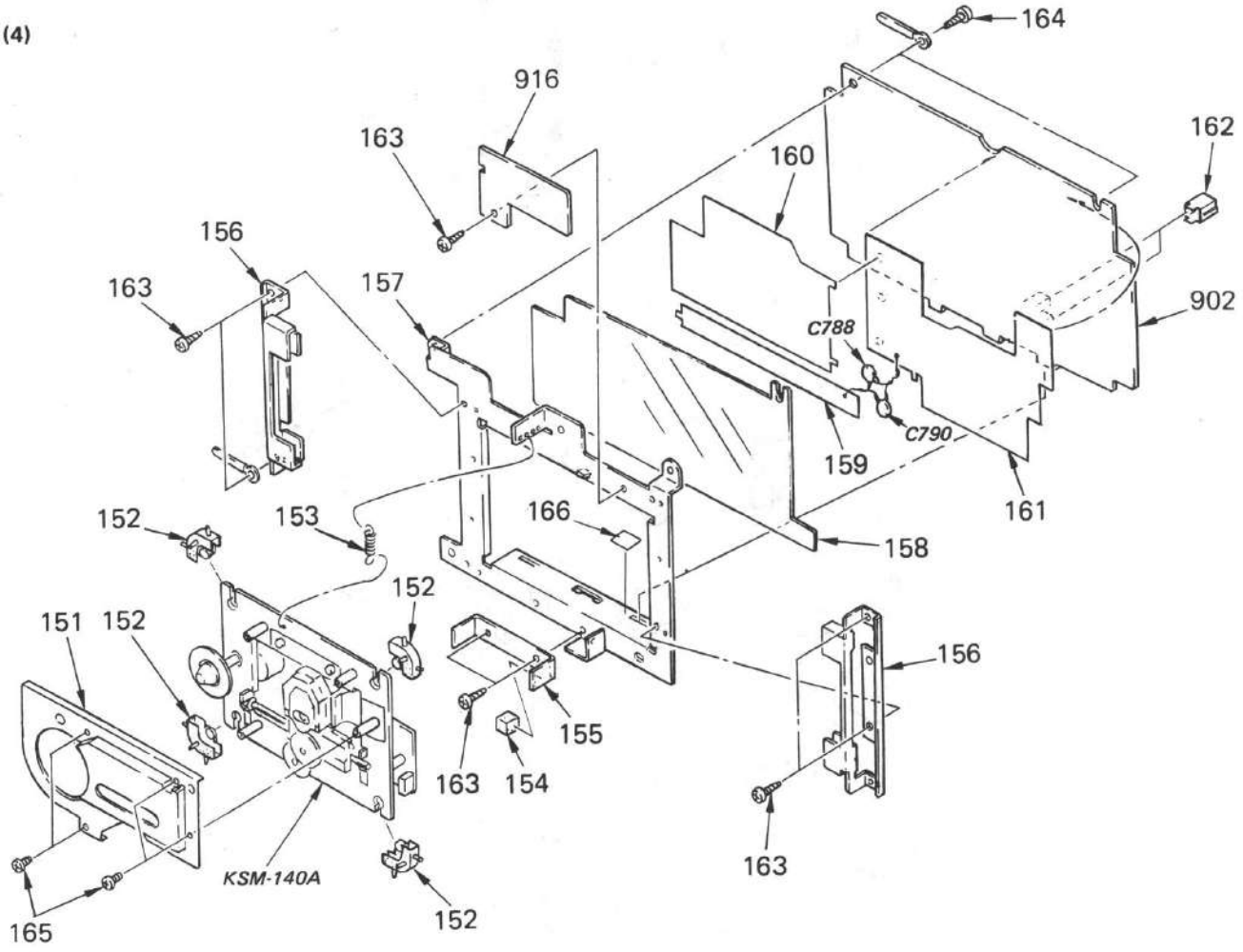



| No. | Part No. | Description | Remarks |
|---|---|---|---|
| 101 | *4-920-948-01 | PLATE (H), SHIELD | |
| 103 | 4-920-954-01 | FOOT, RUBBER | |
| 104 | 4-920-919-01 | CABINET (REAR) | |
| 105 | 3-319-528-91 | HANDLE | |
| 106 | 4-920-909-01 | TERMINAL (MINUS), BATTERY | |
| 107 | 4-920-910-01 | TERMINAL (C), BATTERY | |
| 108 | 3-319-916-51 | LID, BATTERY CASE | |
| 109 | 7-685-649-79 | SCREW +BVTP 3X14 TYPE2 N-S | |
| 110 | 7-685-647-79 | SCREW (+ PTP DIA.12 WH 3) | |
| 111 | 7-685-646-71 | SCREW +BVTP 3X8 | |
| 112 | 7-685-648-79 | SCREW, TAPPING | |

| No. | Part No. | Description | Remarks |
|---|---|---|---|
| 113 | 7-682-549-04 | SCREW +B 3X10 | |
| 904 | *1-533-189-11 | HOLDER, FUSE | |
| 906 | *1-622-772-21 | PC BOARD, POWER | |
| 908 | *1-622-770-21 | PC BOARD, BATTERY TERMINAL | |
| 911 | 1-501-309-11 | ANTENNA, TELESCOPIC | |
| C796 | 1-102-074-00 | CERAMIC 0.001MF | 10% 50V |
| F901 | ⚠1-532-215-00 | FUSE, TIME-LAG 800mA | |
| F902 | ⚠1-532-299-00 | FUSE, TIME-LAG 5A | |
| T901 | ⚠1-449-053-11 | TRANSFORMER, POWER | |

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

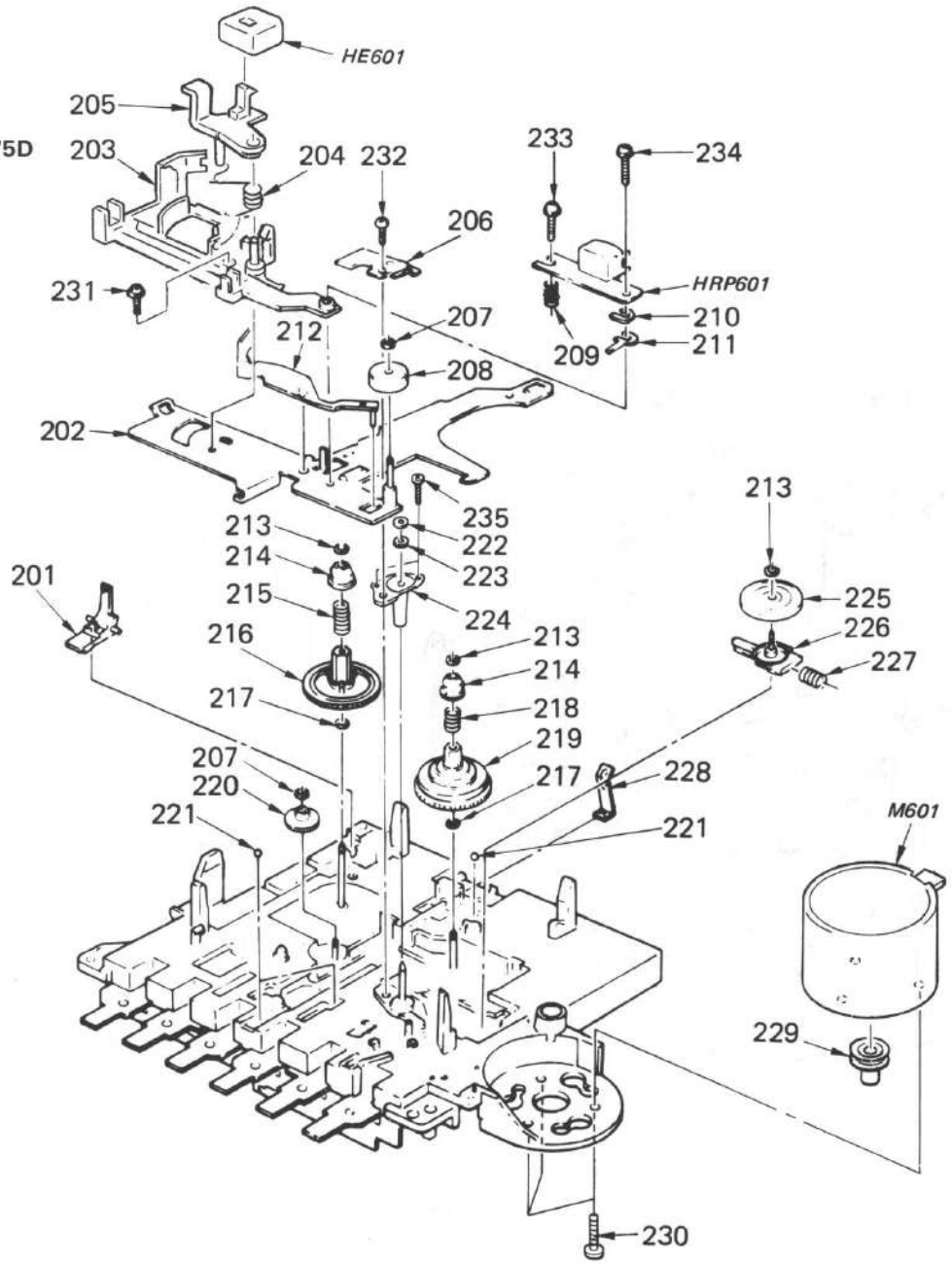
(4)




| No. | Part No. | Description | Remarks |
|---|---|---|---|
| 151 | *X-4919-911-1 | COVER ASSY, CD | |
| 152 | 4-919-958-01 | RUBBER, INSULATING | |
| 153 | 3-679-164-00 | SPRING, TENSION | |
| 154 | 9-911-846-XX | CUSHION | |
| 155 | *4-921-128-01 | RETAINER, BASE | |
| 156 | *4-919-952-01 | BRACKET | |
| 157 | *4-920-958-01 | BRACKET, BLOCK | |
| 158 | *4-919-970-01 | PAPER (CD), SHIELD | |
| 159 | *4-921-135-01 | FOIL (F), SHIELD | |
| 160 | *4-921-131-01 | FOIL (D), SHIELD | |
| 161 | *4-921-123-01 | FOIL (B), SHIELD | |
| 162 | *4-914-828-11 | PLATE, SHIELD | |

| No. | Part No. | Description | Remarks |
|---|---|---|---|
| 163 | 7-621-259-35 | SCREW +BVTT 2.6X5 (S) | |
| 164 | 7-685-645-79 | SCREW +BVTP 3X6 TYPE2 IT-3 | |
| 165 | 7-685-104-19 | SCREW +P 2X6 TYPE2 NON-SLIT | |
| 166 | 4-920-967-01 | SPACER (A.S) | |
| 902 | *A-3216-372-A | PC BOARD ASSY, MAIN, CD | |
| 916 | *1-623-169-11 | PC BOARD, CD TRANSLATION | |
| C788 | 1-162-839-11 | CERAMIC 0.01MF | |
| C790 | 1-102-074-00 | CERAMIC 0.001MF 10% 50V | |

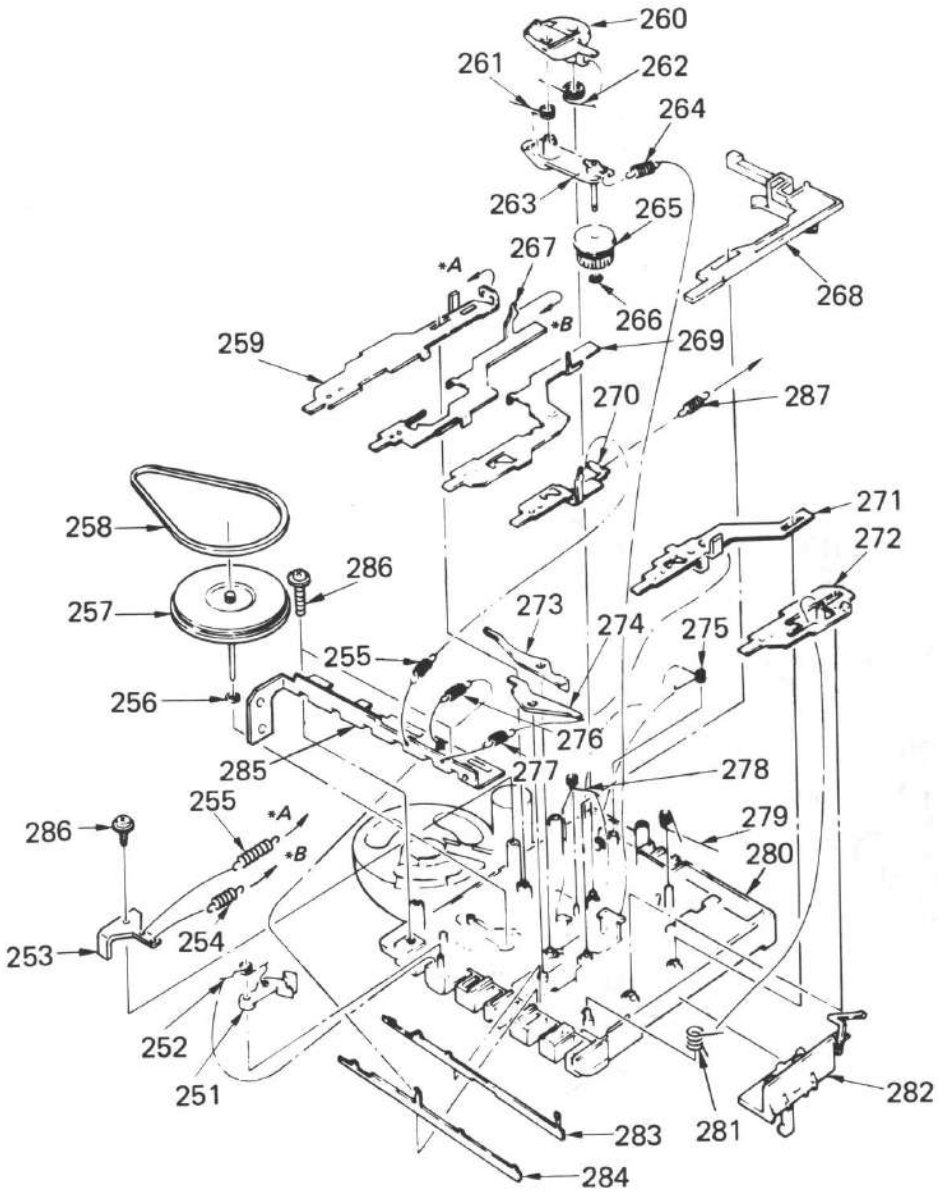
(5) MF-D444-75D




| No. | Part No. | Description | Remarks |
|---|---|---|---|
| 201 | 3-313-357-00 | CLAW, REC PREVENTION | |
| 202 | X-3313-311-1 | CHASSIS ASSY | |
| 203 | 3-334-717-01 | BRACKET (M), HEAD | |
| 204 | 3-313-339-00 | SPRING | |
| 205 | 3-313-361-00 | ARM, ERASE HEAD | |
| 206 | *3-332-309-01 | SPRING (B) | |
| 207 | 3-307-948-01 | WASHER, NYLON | |
| 208 | 3-703-597-41 | PINCH ROLLER, STANDARD | |
| 209 | 3-313-340-00 | SPRING, COMPRESSION | |
| 210 | 3-578-138-01 | SEAM (t = 0.1) | |
| | 3-578-138-11 | SEAM (t = 0.2) | |
| | 3-578-138-21 | SEAM (t = 0.3) | |
| 211 | 3-331-108-01 | LUG (T), SEAM (t = 0.1) | |
| | 3-331-108-11 | LUG (T), SEAM (t = 0.2) | |
| | 3-331-108-21 | LUG (T), SEAM (t = 0.3) | |
| | 3-331-108-31 | LUG (T), SEAM (t = 0.4) | |
| | 3-331-108-41 | LUG (T), SEAM (t = 0.5) | |
| 212 | 3-313-316-00 | PULLEY | |
| 213 | 3-558-708-01 | WASHER, STOPPER | |
| 214 | 3-313-333-00 | CLAW, REEL | |
| 215 | 3-313-344-00 | SPRING, COMPRESSION | |
| 216 | 3-313-305-00 | TABLE, REEL, SUPPLY | |

| No. | Part No. | Description | Remarks |
|---|---|---|---|
| 217 | 3-701-437-21 | WASHER | |
| 218 | 3-313-345-00 | SPRING, COMPRESSION | |
| 219 | X-3331-710-1 | TABLE ASSY, REEL, TAKE-UP | |
| 220 | 3-558-620-11 | GEAR, REWIND | |
| 221 | 7-671-112-11 | BALL, STEEL | |
| 222 | 3-307-948-41 | WASHER, NYLON | |
| 223 | 3-701-438-01 | WASHER (t = 0.13) | |
| | 3-701-438-11 | WASHER (t = 0.25) | |
| 224 | X-3319-945-1 | BEARING ASSY, CAPSTAN | |
| 225 | X-3313-307-0 | PULLEY ASSY, FWD | |
| 226 | X-3313-301-0 | BRACKET ASSY, T PULLEY | |
| 227 | 3-573-464-00 | SPRING, COMPRESSION | |
| 228 | 3-313-902-11 | SPRING | |
| 229 | X-3313-308-1 | PULLEY ASSY, MOTOR | |
| 230 | 7-621-259-35 | SCREW +P 2.6X5 | |
| 231 | 7-621-255-35 | SCREW (2MMX5), + PWH | |
| 232 | 3-324-220-01 | SCREW (B2.6), TAPPING | |
| 233 | 3-701-465-00 | SCREW, LOCK | |
| 234 | 7-621-772-40 | SCREW +B 2X8 | |
| 235 | 3-318-203-71 | SCREW (B1.7X5), TAPPING | |
| HE601 | 8-658-096-02 | HEAD, ERASE EBF5-36 | |
| HRP601 | 1-543-283-11 | HEAD, MAGNETIC (REC/PB) | |
| M601 | 1-541-231-00 | MOTOR | |

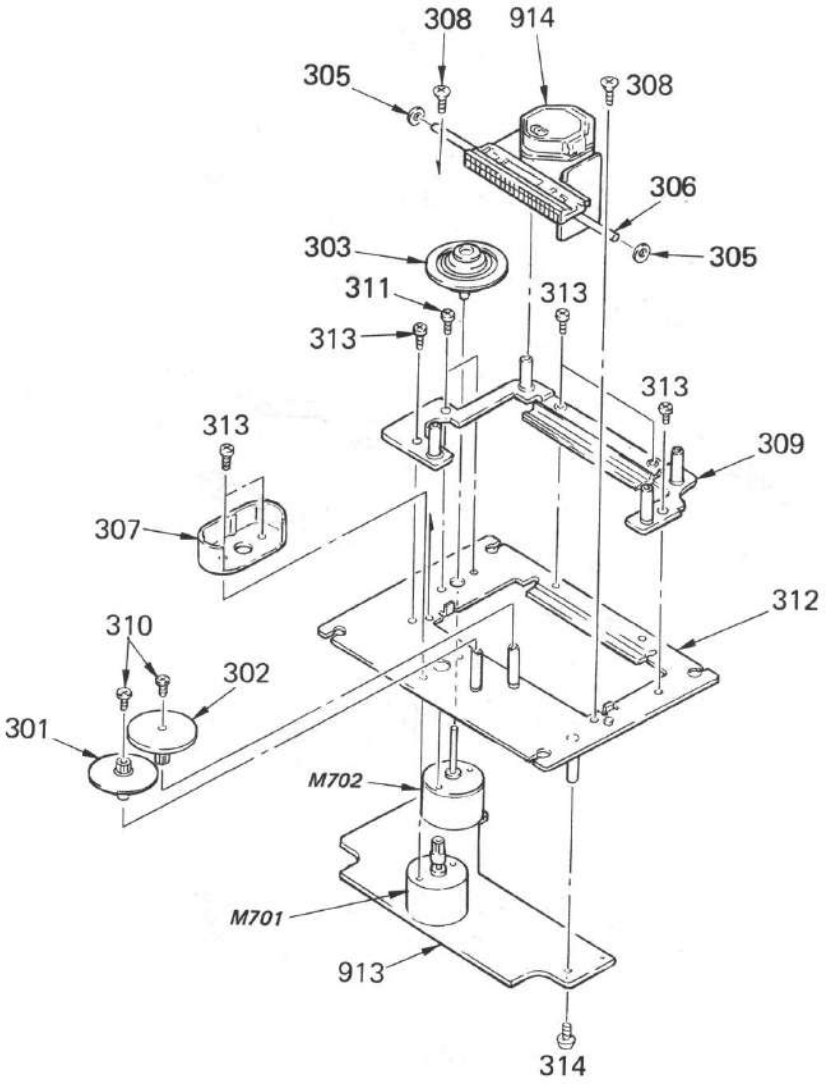
(6)




| No. | Part No. | Description | Remarks |
|---|---|---|---|
| 251 | 3-313-322-02 | LEVER (A), S.OFF | |
| 252 | 3-313-323-00 | SPRING | |
| 253 | *3-332-310-01 | HOOK, SPRING | |
| 254 | 3-313-348-00 | SPRING, TENSION | |
| 255 | 3-313-349-00 | SPRING, TENSION | |
| 256 | 3-307-948-41 | WASHER, NYLON | |
| 257 | X-3592-309-1 | FLYWHEEL (E) ASSY | |
| 258 | 3-313-335-00 | BELT, CAPSTAN | |
| 259 | *3-313-381-21 | LEVER (B), PAUSE BUTTON | |
| 260 | 3-313-314-00 | LEVER (SI), FR | |
| 261 | 3-313-313-00 | SPRING | |
| 262 | 3-313-315-00 | SPRING | |
| 263 | X-3313-304-0 | ARM ASSY, REW | |
| 264 | 3-313-365-00 | SPRING, TENSION | |
| 265 | X-3313-312-1 | IDLER ASSY, FR | |
| 266 | 3-558-708-01 | WASHER, STOPPER | |
| 267 | *3-313-353-21 | LEVER, FF BUTTON | |
| 268 | 3-313-356-00 | BRAKE | |
| 269 | *3-313-354-21 | LEVER, REW BUTTON | |

| No. | Part No. | Description | Remarks |
|---|---|---|---|
| 270 | *3-313-326-21 | LEVER, FWD BUTTON | |
| 271 | *3-313-350-21 | LEVER, REC BUTTON | |
| 272 | *3-313-325-21 | LEVER, STOP BUTTON | |
| 273 | *3-313-320-11 | LEVER, RCP | |
| 274 | *3-313-321-00 | LEVER, PREVENTION, RFR | |
| 275 | 3-313-378-01 | SPRING (A) | |
| 276 | 3-313-343-00 | SPRING, TENSION | |
| 277 | 3-322-529-01 | SPRING, TENSION | |
| 278 | 3-313-338-00 | SPRING | |
| 279 | 3-313-327-00 | SPRING | |
| 280 | A-3102-092-A | CHASSIS ASSY, MECHANICAL | |
| 281 | 3-313-331-00 | SPRING | |
| 282 | 3-313-383-01 | CLAW (B), EJECT | |
| 283 | * 3-313-352-11 | PLATE (B), LOCK | |
| 284 | *3-313-351-11 | PLATE (A), LOCK | |
| 285 | *3-313-382-01 | RETAINER, LEVER | |
| 286 | 7-687-233-11 | SCREW (+ PTPWH) (2.6X6) | |
| 287 | 3-341-181-01 | SPRING(POWER TENSION), TENSION | |

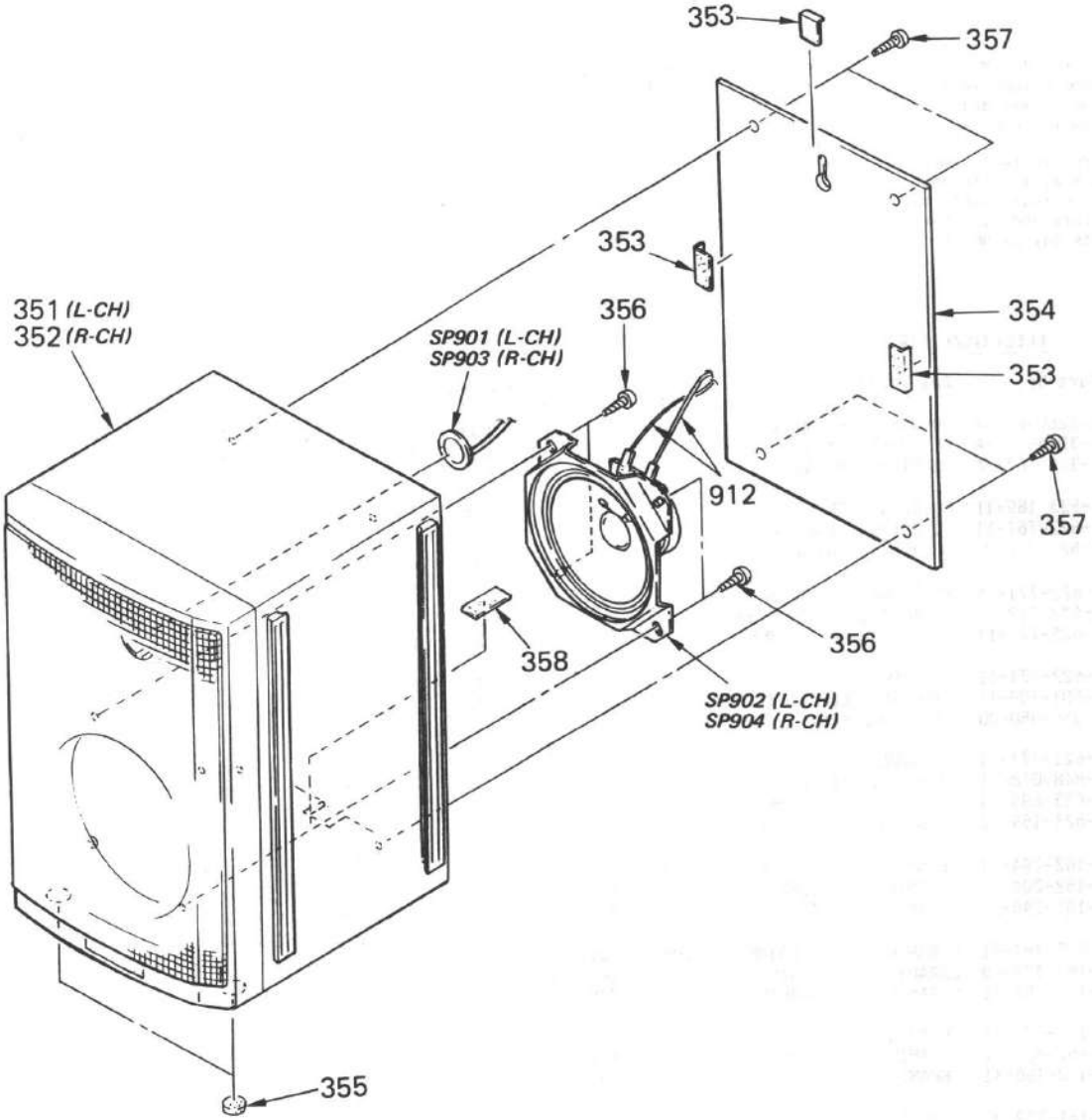
(7) KSM-140A




| No. | Part No. | Description | Remarks |
|---|---|---|---|
| 301 | X-2640-768-1 | GEAR (B) ASSY | |
| 302 | X-2640-769-1 | GEAR (A) ASSY | |
| 303 | X-2640-771-1 | TURNTABLE ASSY | |
| 305 | 2-641-412-01 | WASHER, RUBBER | |
| 306 | *4-910-431-01 | SHAFT, SLIDE | |
| 307 | *2-641-434-01 | COVER, GEAR | |
| 308 | 2-641-430-01 | SCREW (2.6X6), (+)K TAPPING | |
| 309 | 2-641-438-01 | HOLDER, CHASSIS | |
| 310 | 3-303-809-31 | SCREW (M1.7X3.0), SPECIAL HEAD | |
| 311 | 7-621-255-15 | SCREW +P 2X3 | |
| 312 | *X-2640-765-1 | CHASSIS ASSY, MAIN | |
| 313 | 7-621-255-25 | SCREW +P 2X4 | |
| 314 | 7-621-771-06 | SCREW +B 2X5 | |
| 913 | *1-621-771-11 | PC BOARD, RF | |
| 914 | ⚠8-848-078-01 | PICKUP, OPTICAL (KSS-150B) | |
| M701 | X-2640-770-1 | MOTOR (SLED) ASSY | |
| M702 | 1-541-352-11 | MOTOR (SPINDLE) | |

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

(8)




| No. | Part No. | Description | Remarks |
|---|---|---|---|
| 351 | X-4920-903-1 | BOX ASSY (L), SPEAKER | |
| 352 | X-4920-902-1 | BOX ASSY (R), SPEAKER | |
| 353 | 3-831-441-XX | CUSHION, SPEAKER | |
| 354 | *4-920-915-01 | LID, REAR, SP | |
| 355 | 3-331-523-01 | FOOT | |
| 356 | 7-685-648-79 | SCREW, TAPPING | |
| 357 | 7-685-647-79 | SCREW +BTP 3X10 TYPE2 N-S | |
| 358 | 9-911-837-XX | CUSHION(A), FILTER | |
| 912 | 1-556-650-00 | CORD, SPEAKER | |
| SP901 | 1-529-030-21 | BUZZER | |
| SP902 | 1-503-816-11 | SPEAKER, WOOFER | |
| SP903 | 1-529-030-21 | BUZZER | |
| SP904 | 1-503-816-11 | SPEAKER, WOOFER | |

# SECTION 6
# ELECTRICAL PARTS LIST

NOTE:

- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC, UPD...: μPD...

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

| Ref.No. | Part No. | Description | | | |
|---|---|---|---|---|---|
| 901 | *A-3260-656-A | MOUNTED PCB, MAIN | | | |
| 902 | *A-3216-372-A | PC BOARD ASSY, MAIN, CD | | | |
| 903 | *A-3260-677-A | MOUNTED PCB, GEQ | | | |
| 904 | *1-533-189-11 | HOLDER, FUSE | | | |
| 905 | *1-622-767-11 | PC BOARD, LEAF SW | | | |
| 906 | *1-622-770-21 | PC BOARD, POWER | | | |
| 907 | *1-622-771-21 | PC BOARD, POWER SW | | | |
| 908 | *1-622-772-21 | PC BOARD, BATTERY TERMINAL | | | |
| 909 | *1-622-773-11 | PC BOARD, CD CONTROL | | | |
| 910 | *1-622-774-11 | PC BOARD, CD LEAF SW | | | |
| 911 | 1-501-309-11 | ANTENNA, TELESCOPIC | | | |
| 912 | 1-556-650-00 | CORD, SPEAKER | | | |
| 913 | *1-621-771-11 | PC BOARD, RF | | | |
| 914 | ⚠8-848-078-01 | PICK-UP, OPTICAL (KSS-150B) | | | |
| 915 | *1-623-899-11 | PC BOARD, FINE TUNING | | | |
| 916 | *1-623-169-11 | PC BOARD, CD TRANSLATION | | | |
| C1 | 1-162-294-31 | CERAMIC | 0.001MF | 10% | 50V |
| C2 | 1-162-204-31 | CERAMIC | 16PF | 5% | 50V |
| C3 | 1-162-195-31 | CERAMIC | 4.7PF | 10% | 50V |
| C4 | 1-162-294-31 | CERAMIC | 0.001MF | 10% | 50V |
| C5 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 16V |
| C6 | 1-162-294-31 | CERAMIC | 0.001MF | 10% | 50V |
| C7 | 1-162-203-31 | CERAMIC | 15PF | 5% | 50V |
| C8 | 1-162-206-31 | CERAMIC | 20PF | 5% | 50V |
| C9 | 1-162-196-31 | CERAMIC | 5.6PF | 10% | 50V |
| C10 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 16V |
| C11 | 1-161-055-00 | CERAMIC | 0.022MF | 10% | 25V |
| C12 | 1-124-908-11 | ELECT | 22MF | 20% | 25V |
| C13 | 1-161-052-00 | CERAMIC | 0.012MF | 10% | 25V |
| C14 | 1-161-052-00 | CERAMIC | 0.012MF | 10% | 25V |
| C15 | 1-161-043-00 | CERAMIC | 0.0022MF | 10% | 25V |
| C16 | 1-161-494-00 | CERAMIC | 0.022MF | | 25V |
| C17 | 1-123-382-00 | ELECT | 3.3MF | 20% | 50V |
| C18 | 1-124-499-11 | ELECT | 1MF | 20% | 50V |
| C19 | 1-162-288-31 | CERAMIC | 330PF | 10% | 50V |
| C20 | 1-130-471-00 | FILM | 0.001MF | 10% | 50V |
| C21 | 1-124-902-00 | ELECT | 0.47MF | 20% | 50V |
| C22 | 1-124-464-11 | ELECT | 0.22MF | 20% | 50V |
| C23 | 1-124-446-11 | ELECT | 47MF | 20% | 10V |
| C24 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 16V |
| C26 | 1-162-284-31 | CERAMIC | 150PF | 10% | 50V |
| C27 | 1-162-201-31 | CERAMIC | 12PF | 10% | 50V |
| C28 | 1-162-560-11 | CERAMIC | 0.047MF | | 16V |
| C29 | 1-124-604-00 | ELECT | 330MF | 20% | 10V |
| C30 | 1-162-560-11 | CERAMIC | 0.047MF | | 16V |
| C31 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 16V |
| C32 | 1-124-927-11 | ELECT | 4.7MF | 20% | 50V |

ELECTRICAL PARTS

| Ref.No. | Part No. | Description | | | |
|---|---|---|---|---|---|
| C33 | 1-124-927-11 | ELECT | 4.7MF | 20% | 50V |
| C34 | 1-162-294-31 | CERAMIC | 0.001MF | 10% | 50V |
| C35 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 16V |
| C36 | 1-102-113-00 | CERAMIC | 390PF | 5% | 50V |
| C37 | 1-102-111-00 | CERAMIC | 270PF | 10% | 500V |
| C38 | 1-161-047-00 | CERAMIC | 0.0047MF | 10% | 25V |
| C39 | 1-102-109-00 | CERAMIC | 180PF | 10% | 50V |
| C40 | 1-102-945-00 | CERAMIC | 8PF | 0.5PF | 50V |
| C41 | 1-162-194-31 | CERAMIC | 3.9PF | 10% | 50V |
| C42 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C43 | 1-161-055-00 | CERAMIC | 0.022MF | 10% | 25V |
| C44 | 1-162-294-31 | CERAMIC | 0.001MF | 10% | 50V |
| C45 | 1-162-294-31 | CERAMIC | 0.001MF | 10% | 50V |
| C46 | 1-162-199-31 | CERAMIC | 10PF | 5% | 50V |
| C47 | 1-162-219-31 | CERAMIC | 68PF | 5% | 50V |
| C48 | 1-162-199-31 | CERAMIC | 10PF | 5% | 50V |
| C49 | 1-102-943-00 | CERAMIC | 6PF | 0.5PF | 50V |
| C50 | 1-131-381-00 | TANTALUM | 47MF | 20% | 10V |
| C101 | 1-162-292-31 | CERAMIC | 680PF | 10% | 50V |
| C102 | 1-123-875-11 | ELECT | 10MF | 20% | 50V |
| C103 | 1-162-294-31 | CERAMIC | 0.001MF | 10% | 50V |
| C104 | 1-124-446-11 | ELECT | 47MF | 20% | 10V |
| C105 | 1-161-055-00 | CERAMIC | 0.022MF | 10% | 25V |
| C106 | 1-161-054-00 | CERAMIC | 0.018MF | 10% | 25V |
| C107 | 1-123-382-00 | ELECT | 3.3MF | 20% | 50V |
| C108 | 1-124-902-00 | ELECT | 0.47MF | 20% | 50V |
| C109 | 1-124-902-00 | ELECT | 0.47MF | 20% | 50V |
| C110 | 1-124-927-11 | ELECT | 4.7MF | 20% | 50V |
| C111 | 1-130-770-00 | FILM | 0.15MF | 10% | 63V |
| C112 | 1-161-042-00 | CERAMIC | 0.0018MF | 10% | 25V |
| C113 | 1-162-294-31 | CERAMIC | 0.001MF | 10% | 50V |
| C114 | 1-161-020-11 | CERAMIC | 0.039MF | 10% | 25V |
| C115 | 1-131-346-00 | ELECT(SOLID) | 0.68MF | 20% | 25V |
| C116 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 16V |
| C117 | 1-131-343-00 | ELECT(SOLID) | 0.22MF | 20% | 25V |
| C118 | 1-161-377-00 | CERAMIC | 0.0047MF | 30% | 16V |
| C119 | 1-161-021-11 | CERAMIC | 0.047MF | 10% | 25V |
| C120 | 1-162-294-31 | CERAMIC | 0.001MF | 10% | 50V |
| C121 | 1-161-494-00 | CERAMIC | 0.022MF | | 25V |
| C122 | 1-162-289-31 | CERAMIC | 390PF | 10% | 50V |
| C123 | 1-161-329-00 | CERAMIC | 0.0068MF | 30% | 16V |
| C124 | 1-124-927-11 | ELECT | 4.7MF | 20% | 50V |
| C125 | 1-161-039-00 | CERAMIC | 0.001MF | 10% | 25V |
| C126 | 1-124-499-11 | ELECT | 1MF | 20% | 50V |
| C127 | 1-124-463-00 | ELECT | 0.1MF | 20% | 50V |
| C128 | 1-162-294-31 | CERAMIC | 0.001MF | 10% | 50V |
| C129 | 1-123-875-11 | ELECT | 10MF | 20% | 50V |
| C130 | 1-124-478-11 | ELECT | 100MF | 20% | 25V |

ELECTRICAL PARTS

| Ref.No. | Part No. | Description | | | |
|---|---|---|---|---|---|
| C131 | 1-124-360-00 | ELECT | 1000MF | 20% | 16V |
| C132 | 1-130-772-00 | FILM | 0.22MF | 10% | 63V |
| C133 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C134 | 1-124-927-11 | ELECT | 4.7MF | 20% | 50V |
| C201 | 1-162-292-31 | CERAMIC | 680PF | 10% | 50V |
| C202 | 1-123-875-11 | ELECT | 10MF | 20% | 50V |
| C203 | 1-162-294-31 | CERAMIC | 0.001MF | 10% | 50V |
| C204 | 1-124-446-11 | ELECT | 47MF | 20% | 10V |
| C205 | 1-161-055-00 | CERAMIC | 0.022MF | 10% | 25V |
| C206 | 1-161-054-00 | CERAMIC | 0.018MF | 10% | 25V |
| C207 | 1-123-382-00 | ELECT | 3.3MF | 20% | 50V |
| C208 | 1-124-902-00 | ELECT | 0.47MF | 20% | 50V |
| C209 | 1-124-902-00 | ELECT | 0.47MF | 20% | 50V |
| C210 | 1-124-927-11 | ELECT | 4.7MF | 20% | 50V |
| C211 | 1-130-770-00 | FILM | 0.15MF | 10% | 63V |
| C212 | 1-161-042-00 | CERAMIC | 0.0018MF | 10% | 25V |
| C213 | 1-162-294-31 | CERAMIC | 0.001MF | 10% | 50V |
| C214 | 1-161-020-11 | CERAMIC | 0.039MF | 10% | 25V |
| C215 | 1-131-346-00 | ELECT(SOLID) | 0.68MF | 20% | 25V |
| C216 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 16V |
| C217 | 1-131-343-00 | ELECT(SOLID) | 0.22MF | 20% | 25V |
| C218 | 1-161-377-00 | CERAMIC | 0.0047MF | 30% | 16V |
| C219 | 1-161-021-11 | CERAMIC | 0.047MF | 10% | 25V |
| C220 | 1-162-294-31 | CERAMIC | 0.001MF | 10% | 50V |
| C221 | 1-161-494-00 | CERAMIC | 0.022MF | | 25V |
| C222 | 1-162-289-31 | CERAMIC | 390PF | 10% | 50V |
| C223 | 1-161-329-00 | CERAMIC | 0.0068MF | 30% | 16V |
| C224 | 1-124-927-11 | ELECT | 4.7MF | 20% | 50V |
| C225 | 1-161-039-00 | CERAMIC | 0.001MF | 10% | 25V |
| C226 | 1-124-499-11 | ELECT | 1MF | 20% | 50V |
| C227 | 1-124-463-00 | ELECT | 0.1MF | 20% | 50V |
| C228 | 1-162-294-31 | CERAMIC | 0.001MF | 10% | 50V |
| C229 | 1-123-875-11 | ELECT | 10MF | 20% | 50V |
| C230 | 1-124-478-11 | ELECT | 100MF | 20% | 25V |
| C231 | 1-124-360-00 | ELECT | 1000MF | 20% | 16V |
| C232 | 1-130-772-00 | FILM | 0.22MF | 10% | 63V |
| C233 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C234 | 1-124-927-11 | ELECT | 4.7MF | 20% | 50V |
| C301 | 1-124-604-00 | ELECT | 330MF | 20% | 10V |
| C302 | 1-124-478-11 | ELECT | 100MF | 20% | 25V |
| C303 | 1-124-446-11 | ELECT | 47MF | 20% | 10V |
| C304 | 1-124-478-11 | ELECT | 100MF | 20% | 25V |
| C305 | 1-124-480-11 | ELECT | 470MF | 20% | 25V |
| C306 | 1-124-479-11 | ELECT | 330MF | 20% | 25V |
| C307 | 1-162-294-31 | CERAMIC | 0.001MF | 10% | 50V |
| C308 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 16V |
| C309 | 1-126-103-11 | ELECT | 470MF | 20% | 16V |
| C311 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 16V |
| C312 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 16V |
| C313 | 1-124-360-00 | ELECT | 1000MF | 20% | 16V |
| C314 | 1-126-103-11 | ELECT | 470MF | 20% | 16V |
| C315 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 16V |
| C316 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 16V |
| C317 | 1-124-472-11 | ELECT | 470MF | 20% | 10V |
| C318 | 1-124-444-00 | ELECT | 220MF | 20% | 10V |
| C319 | 1-124-444-00 | ELECT | 220MF | 20% | 10V |
| C320 | 1-130-479-00 | MYLAR | 0.0047MF | 5% | 50V |
| C321 | 1-130-480-00 | MYLAR | 0.0056MF | 5% | 50V |

ELECTRICAL PARTS

| Ref.No. | Part No. | Description | | | |
|---|---|---|---|---|---|
| C322 | 1-130-469-00 | MYLAR | 680PF | 10% | 50V |
| C390 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C391 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C392 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C393 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C394 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C395 | 1-124-908-11 | ELECT | 22MF | 20% | 25V |
| C396 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C397 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C399 | 1-161-494-00 | CERAMIC | 0.022MF | 30% | 25V |
| C601 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 25V |
| C701 | 1-130-475-00 | (RF BOARD).....CERAMIC | 0.0022MF | 5% | 50V |
| C701 | 1-162-851-11 | (CD MAIN BOARD)...CERAMIC | 0.1MF | 10% | 16V |
| C702 | 1-101-888-00 | (CD MAIN BOARD)...CERAMIC | 68PF | 5% | 50V |
| C702 | 1-124-963-00 | (RF BOARD).....ELECT | 33PF | 10% | 16V |
| C703 | 1-123-875-11 | (CD MAIN BOARD)...ELECT | 10MF | 20% | 50V |
| C703 | 1-162-294-31 | (RF BOARD).....ELECT | 0.001MF | 10% | 50V |
| C704 | 1-123-875-11 | (CD MAIN BOARD)...ELECT | 10MF | 20% | 50V |
| C704 | 1-124-443-00 | (RF BOARD).....ELECT | 100MF | 20% | 50V |
| C705 | 1-130-483-00 | MYLAR | 0.01MF | 5% | 50V |
| C706 | 1-130-489-00 | MYLAR | 0.033MF | 5% | 50V |
| C707 | 1-131-392-00 | TANTALUM | 100MF | 10% | 3.15V |
| C708 | 1-130-489-00 | MYLAR | 0.033MF | 5% | 50V |
| C709 | 1-124-463-00 | (CD MAIN BOARD)...ELECT | 0.1MF | 20% | 50V |
| C709 | 1-130-483-00 | (RF BOARD).....MYLAR | 0.01MF | 5% | 50V |
| C710 | 1-162-847-11 | (CD MAIN BOARD)..CERAMIC | 0.047MF | 10% | 16V |
| C710 | 1-124-963-11 | (RF BOARD).....ELECT | 33MF | 20% | 16V |
| C711 | 1-130-483-00 | MYLAR | 0.01MF | 5% | 50V |
| C712 | 1-124-963-11 | ELECT | 33MF | 20% | 16V |
| C713 | 1-130-485-00 | MYLAR | 0.01MF | 5% | 50V |
| C722 | 1-124-444-00 | ELECT | 220MF | 20% | 10V |
| C724 | 1-161-379-00 | CERAMIC | 0.01MF | 20% | 16V |
| C725 | 1-124-902-00 | ELECT | 0.47MF | 20% | 50V |
| C726 | 1-124-499-11 | ELECT | 1MF | 20% | 50V |
| C727 | 1-124-499-11 | ELECT | 1MF | 20% | 50V |
| C728 | 1-130-479-00 | MYLAR | 0.0047MF | 5% | 50V |
| C729 | 1-162-294-31 | CERAMIC | 0.001MF | 10% | 50V |
| C730 | 1-124-963-11 | ELECT | 33MF | 20% | 16V |
| C731 | 1-124-902-00 | ELECT | 0.47MF | 20% | 50V |
| C732 | 1-130-489-00 | MYLAR | 0.033MF | 5% | 50V |
| C733 | 1-124-963-11 | ELECT | 33MF | 20% | 16V |
| C734 | 1-130-475-00 | MYLAR | 0.0022MF | 5% | 50V |
| C735 | 1-130-491-00 | MYLAR | 0.047MF | 5% | 50V |
| C736 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |
| C737 | 1-130-489-00 | MYLAR | 0.033MF | 5% | 50V |
| C738 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |
| C739 | 1-124-963-11 | ELECT | 33MF | 20% | 16V |
| C740 | 1-131-382-00 | TANTALUM | 6.8MF | 10% | 6.3V |
| C741 | 1-130-493-00 | MYLAR | 0.068MF | 5% | 50V |
| C742 | 1-162-290-31 | CERAMIC | 470PF | 10% | 50V |
| C743 | 1-124-963-11 | ELECT | 33MF | 20% | 16V |
| C744 | 1-124-908-11 | ELECT | 22MF | 20% | 25V |
| C746 | 1-124-444-00 | ELECT | 220MF | 20% | 10V |
| C747 | 1-102-965-00 | CERAMIC | 39PF | 5% | 50V |
| C748 | 1-102-961-00 | CERAMIC | 27PF | 5% | 50V |
| C749 | 1-130-475-00 | MYLAR | 0.0022MF | 5% | 50V |
| C750 | 1-130-475-00 | MYLAR | 0.0022MF | 5% | 50V |

ELECTRICAL PARTS

| Ref.No. | Part No. | Description | | | |
|---|---|---|---|---|---|
| C751 | 1-124-442-00 | ELECT | 330MF | 20% | 6.3V |
| C752 | 1-124-442-00 | ELECT | 330MF | 20% | 6.3V |
| C755 | 1-124-255-00 | ELECT | 1MF | 20% | 50V |
| C756 | 1-124-499-11 | ELECT | 1MF | 20% | 50V |
| C757 | 1-124-242-00 | ELECT | 33MF | 20% | 16V |
| C759 | 1-124-245-00 | ELECT | 4.7MF | 20% | 16V |
| C760 | 1-124-927-11 | ELECT | 4.7MF | 20% | 50V |
| C761 | 1-124-443-00 | ELECT | 100MF | 20% | 10V |
| C762 | 1-130-472-00 | MYLAR | 0.0012MF | 5% | 50V |
| C763 | 1-130-472-00 | MYLAR | 0.0012MF | 5% | 50V |
| C764 | 1-124-255-00 | ELECT | 1MF | 20% | 50V |
| C765 | 1-124-499-11 | ELECT | 1MF | 20% | 50V |
| C766 | 1-124-443-00 | ELECT | 100MF | 20% | 10V |
| C767 | 1-124-902-00 | ELECT | 0.47MF | 20% | 50V |
| C768 | 1-123-875-11 | ELECT | 10MF | 20% | 50V |
| C769 | 1-130-479-00 | MYLAR | 0.0047MF | 5% | 50V |
| C770 | 1-130-483-00 | MYLAR | 0.01MF | 5% | 50V |
| C772 | 1-130-483-00 | MYLAR | 0.01MF | 5% | 50V |
| C773 | 1-124-473-11 | ELECT | 1000MF | 20% | 10V |
| C774 | 1-124-472-11 | ELECT | 470MF | 20% | 10V |
| C775 | 1-124-473-11 | ELECT | 1000MF | 20% | 10V |
| C776 | 1-162-294-31 | CERAMIC | 0.001MF | 10% | 50V |
| C777 | 1-124-444-00 | ELECT | 220MF | 20% | 10V |
| C778 | 1-124-472-11 | ELECT | 470MF | 20% | 10V |
| C779 | 1-162-294-31 | CERAMIC | 0.001MF | 10% | 50V |
| C780 | 1-161-379-00 | CERAMIC | 0.01MF | 20% | 16V |
| C781 | 1-162-294-31 | CERAMIC | 0.001MF | 10% | 50V |
| C782 | 1-124-893-11 | ELECT | 2200MF | 20% | 10V |
| C783 | 1-131-386-00 | TANTALUM | 33MF | 10% | 6.3V |
| C785 | 1-102-074-00 | CERAMIC | 0.001MF | 5% | 50V |
| C788 | 1-162-839-11 | CERAMIC | 0.01MF | | |
| C789 | 1-102-074-00 | CERAMIC | 0.001MF | 10% | 50V |
| C790 | 1-102-074-00 | CERAMIC | 0.001MF | 10% | 50V |
| C791 | 1-162-294-31 | CERAMIC | 0.001MF | 10% | 50V |
| C792 | 1-162-294-31 | CERAMIC | 0.001MF | 10% | 50V |
| C793 | 1-162-851-11 | CERAMIC | 0.1MF | 10% | 16V |
| C794 | 1-162-851-11 | CERAMIC | 0.1MF | 10% | 16V |
| C796 | 1-102-074-00 | CERAMIC | 0.001MF | 10% | 50V |
| C799 | 1-162-835-11 | CERAMIC | 0.0047MF | 10% | 16V |
| C801 | 1-102-965-00 | CERAMIC | 39PF | 5% | 50V |
| C802 | 1-102-965-00 | CERAMIC | 39PF | 5% | 50V |
| C803 | 1-124-465-00 | ELECT | 0.47MF | 20% | 50V |
| C804 | 1-161-377-00 | CERAMIC | 0.0047MF | 30% | 16V |
| C805 | 1-161-377-00 | CERAMIC | 0.0047MF | 30% | 16V |
| C810 | 1-123-306-00 | ELECT | 47MF | 20% | 10V |
| C850 | 1-161-772-11 | CERAMIC | 0.1MF | 10% | 25V |
| C901 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C902 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C903 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C904 | 1-124-564-11 | ELECT | 4700MF | 20% | 25V |
| CN901 | ⚠1-526-822-11 | INLET, AC | | | |
| CF1 | 1-567-198-71 | FILTER, CERAMIC | | | |
| CF801 | 1-527-932-00 | OSCILLATOR, CERAMIC | | | |
| CNP1 | *1-564-508-11 | PLUG, CONNECTOR 5P | | | |
| CNP2 | *1-564-511-11 | PLUG, CONNECTOR 8P | | | |
| CNP3 | *1-564-507-11 | PLUG, CONNECTOR 4P | | | |

ELECTRICAL PARTS

| Ref.No. | Part No. | Description |
|---|---|---|
| CNP6 | *1-562-197-41 | HOUSING, CONNECTOR 3P |
| CNP701 | *1-564-706-11 | PIN, CONNECTOR (SMALL TYPE) 4P |
| CNP702 | *1-564-706-11 | PIN, CONNECTOR (SMALL TYPE) 4P |
| CNP704 | *1-564-704-11 | PIN, CONNECTOR (SMALL TYPE) 2P |
| CNP706 | *1-564-727-11 | PIN, CONNECTOR (SMALL TYPE)11P |
| CNP708 | *1-564-337-00 | PIN, CONNECTOR 3P |
| CNP709 | *1-564-341-11 | PIN, CONNECTOR 7P |
| CNP710 | *1-506-503-11 | PIN, CONNECTOR 9P |
| CNP805 | *1-564-718-11 | PIN, CONNECTOR (SMALL TYPE) 2P |
| CNP808 | *1-564-337-00 | PIN, CONNECTOR 3P |
| CNP809 | *1-564-341-11 | PIN, CONNECTOR 7P |
| CNP810 | *1-506-503-11 | PIN, CONNECTOR 9P |
| CT2 | 1-141-245-00 | CAP, TRIMMER, CERAMIC |
| CT3 | 1-141-290-11 | CAP, VAR FILM TRIMMER |
| CT4 | 1-141-245-00 | CAP, TRIMMER, CERAMIC |
| CT5 | 1-141-304-21 | CAP, TRIMMER, CERAMIC |
| CT1, CV1 | 1-151-387-00 | CAP, TUNING, POLYETHYLENE |
| D1 | 8-719-911-19 | DIODE 1SS119 |
| D2 | 8-719-911-19 | DIODE 1SS119 |
| D30 | 8-719-911-19 | DIODE 1SS119 |
| D301 | 8-719-109-97 | DIODE RD6.8ES-B2 |
| D302 | 8-719-110-13 | DIODE RD9.1ES-B2 |
| D303 | 8-719-110-22 | DIODE RD11ES-B2 |
| D501 | 8-719-901-96 | DIODE SLP161B |
| D502 | 8-719-901-96 | DIODE SLP161B |
| D701 | 8-719-200-29 | DIODE 11DQ04 |
| D702 | 8-719-200-29 | DIODE 11DQ04 |
| D703 | 8-719-200-29 | DIODE 11DQ04 |
| D704 | 8-719-200-29 | DIODE 11DQ04 |
| D705 | 8-719-910-65 | DIODE HZ6B2L |
| D706 | 8-719-901-33 | DIODE 1SS133 |
| D707 | 8-719-901-33 | DIODE 1SS133 |
| D720 | 8-719-901-33 | DIODE 1SS133 |
| D798 | 8-719-901-33 | DIODE 1SS133 |
| D799 | 8-719-901-33 | DIODE 1SS133 |
| D801 | 8-719-911-19 | DIODE 1SS119 |
| D802 | 8-719-911-19 | DIODE 1SS119 |
| D803 | 8-719-911-19 | DIODE 1SS119 |
| D804 | 8-719-911-19 | DIODE 1SS119 |
| D805 | 8-719-911-19 | DIODE 1SS119 |
| D806 | 8-719-911-19 | DIODE 1SS119 |
| D901 | 8-719-504-60 | DIODE S4VB60 |
| F901 | ⚠1-532-215-00 | FUSE, TIME-LAG 800mA |
| F902 | ⚠1-532-299-00 | FUSE, TIME-LAG 5A |
| FL1 | 1-236-022-11 | FILTER, BAND PASS |
| FL701 | 1-235-984-11 | FILTER, LOW PASS |
| FL702 | 1-235-984-11 | FILTER, LOW PASS |
| HE601 | 8-658-096-02 | HEAD, ERASE EBF5-36 |
| HRP601 | 1-543-283-11 | HEAD, MAGNETIC (REC/PB) |
| IC1 | 8-759-208-99 | IC TA7378P |
| IC2 | 8-759-804-97 | IC LA1810S |
| IC101 | 8-759-801-23 | IC LA3600 |

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

| Ref.No. | Part No. | Description |
|---|---|---|
| IC201 | 8-759-801-23 | IC LA3600 |
| IC301 | 8-759-800-66 | IC LA3161 |
| IC302 | 8-759-942-22 | IC BA5406 |
| IC701 | 8-752-030-93 | IC CXA1081M |
| IC702 | 8-752-031-61 | IC CXA1082AQ |
| IC703 | 8-752-322-32 | IC CXD1130Q |
| IC704 | 8-759-802-74 | IC LC3516AML-15 |
| IC705 | 8-752-323-88 | IC CXD1140AM |
| IC706 | 8-759-601-02 | IC M5218P |
| IC707 | 8-759-924-58 | IC CXA1083M |
| IC708 | 8-759-945-70 | IC BA6290A |
| IC709 | 8-759-803-46 | IC LA5005 |
| IC801 | 8-759-605-05 | IC M51951BSL |
| IC802 | 8-752-802-17 | IC CXP5024H-027Q |
| J301 | 1-563-992-11 | JACK, PIN 4P (LINE IN/CD OUT) |
| J302 | 1-563-649-11 | JACK (PHONES) |
| J303 | 1-536-705-21 | TERMINAL BOARD (SPEAKER) |
| L1 | *1-422-273-11 | COIL, AIR-CORE |
| L2 | *1-422-271-11 | COIL, AIR-CORE |
| L3 | 1-402-308-11 | ANTENNA, FERRITE-ROD (MW/LW) |
| L101 | 1-408-429-00 | MICRO INDUCTOR 470UH |
| L201 | 1-408-429-00 | MICRO INDUCTOR 470UH |
| L301 | 1-408-092-00 | MICRO INDUCTOR 330UH |
| L701 | 1-410-336-11 | MICRO INDUCTOR 220UH |
| L702 | 1-410-336-11 | MICRO INDUCTOR 220UH |
| L703 | 1-410-336-11 | MICRO INDUCTOR 220UH |
| L704 | 1-408-569-00 | MICRO INDUCTOR 33UH |
| L705 | 1-408-557-00 | MICRO INDUCTOR 3.3UH |
| L706 | 1-408-557-00 | MICRO INDUCTOR 3.3UH |
| L707 | 1-408-557-00 | MICRO INDUCTOR 3.3UH |
| L708 | 1-459-691-11 | COIL (WITH CORE) |
| L709 | 1-459-691-11 | COIL (WITH CORE) |
| L710 | 1-459-691-11 | COIL (WITH CORE) |
| M601 | 1-541-231-00 | MOTOR |
| M701 | X-2640-770-1 | MOTOR ASSY (SLED) |
| M702 | 1-541-352-11 | MOTOR (SPINDLE) |
| ND801 | 1-807-702-21 | DISPLAY PANEL, LIQUID CRYSTAL |
| PS301 | ⚠1-532-842-11 | LINK, IC(2A) |
| Q1 | 8-729-883-91 | TRANSISTOR 2SC2839-D |
| Q2 | 8-729-672-42 | TRANSISTOR 2SC2724-C |
| Q101 | 8-729-600-27 | TRANSISTOR 2SC634SP |
| Q102 | 8-729-600-27 | TRANSISTOR 2SC634SP |
| Q201 | 8-729-600-27 | TRANSISTOR 2SC634SP |
| Q202 | 8-729-600-27 | TRANSISTOR 2SC634SP |
| Q301 | 8-729-811-24 | TRANSISTOR 2SD1012 |
| Q302 | 8-729-905-66 | TRANSISTOR 2SD1944 |
| Q303 | 8-729-905-66 | TRANSISTOR 2SD1944 |
| Q304 | 8-729-905-66 | TRANSISTOR 2SD1944 |
| Q306 | 8-729-204-83 | TRANSISTOR 2SA1048-GR |
| Q701 | 8-729-801-83 | TRANSISTOR 2SB1013 |
| Q702 | 8-729-900-36 | TRANSISTOR DTC124ES |
| Q703 | 8-729-900-36 | TRANSISTOR DTC124ES |
| Q704 | 8-729-204-83 | TRANSISTOR 2SA1048-GR |
| Q705 | 8-729-204-83 | TRANSISTOR 2SA1048-GR |
| Q706 | 8-729-322-78 | TRANSISTOR 2SC2278 |
| Q707 | 8-729-322-78 | TRANSISTOR 2SC2278 |
| Q708 | 8-729-900-36 | TRANSISTOR DTC124ES |
| Q709 | 8-729-900-36 | TRANSISTOR DTC124ES |
| Q710 | 8-729-900-63 | TRANSISTOR DTA124ES |
| Q711 | 8-729-905-66 | TRANSISTOR 2SD1944 |

ELECTRICAL PARTS

| Ref.No. | Part No. | Description | | | |
|---|---|---|---|---|---|
| Q712 | 8-729-400-81 | TRANSISTOR 2SD1266-Q | | | |
| Q801 | 8-729-900-63 | TRANSISTOR DTA124ES | | | |
| Q802 | 8-729-900-36 | TRANSISTOR DTC124ES | | | |
| R1 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R2 | 1-249-400-11 | CARBON | 39 | 5% | 1/4W |
| R3 | 1-249-410-11 | CARBON | 270 | 5% | 1/4W |
| R4 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R5 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W |
| R6 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W |
| R7 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R8 | 1-215-454-00 | CARBON | 24K | 5% | 1/4W |
| R9 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R10 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R11 | 1-249-406-11 | CARBON | 120 | 5% | 1/4W |
| R12 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R13 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R14 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R15 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R16 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R17 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W |
| R18 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R19 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R20 | 1-247-881-00 | CARBON | 120K | 5% | 1/4W |
| R21 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W |
| R22 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R23 | 1-247-883-00 | CARBON | 150K | 5% | 1/4W |
| R24 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R25 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R26 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R27 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W |
| R101 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R102 | 1-247-881-00 | CARBON | 120K | 5% | 1/4W |
| R103 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R104 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W |
| R105 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R106 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R107 | 1-247-849-00 | CARBON | 5.6K | 5% | 1/4W |
| R108 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R109 | 1-247-895-00 | CARBON | 470K | 5% | 1/4W |
| R110 | 1-249-404-00 | CARBON | 82 | 5% | 1/4W |
| R111 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R112 | 1-249-407-11 | CARBON | 150 | 5% | 1/4W |
| R113 | 1-249-385-11 | CARBON | 2.2 | 5% | 1/4W |
| R114 | 1-249-406-11 | CARBON | 120 | 5% | 1/4W |
| R115 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R116 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R117 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R119 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W |
| R120 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R121 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W |
| R122 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R123 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R124 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R201 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R202 | 1-247-881-00 | CARBON | 120K | 5% | 1/4W |
| R203 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R204 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W |
| R205 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R206 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |

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ELECTRICAL PARTS

| Ref.No. | Part No. | Description | | | | |
|---|---|---|---|---|---|---|
| R207 | 1-247-849-00 | CARBON | 5.6K | 5% | 1/4W | |
| R208 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R209 | 1-247-895-00 | CARBON | 470K | 5% | 1/4W | |
| R210 | 1-249-404-00 | CARBON | 82 | 5% | 1/4W | |
| R211 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R212 | 1-249-407-11 | CARBON | 150 | 5% | 1/4W | |
| R213 | 1-249-385-11 | CARBON | 2.2 | 5% | 1/4W | |
| R214 | 1-249-406-11 | CARBON | 120 | 5% | 1/4W | |
| R215 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W | |
| R216 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W | |
| R217 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R219 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W | |
| R220 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W | |
| R221 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W | |
| R222 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R223 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R224 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R301 | 1-249-408-11 | CARBON | 180 | 5% | 1/4W | |
| R302 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R303 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R304 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W | |
| R305 | 1-249-408-11 | CARBON | 180 | 5% | 1/4W | |
| R306 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W | |
| R307 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W | |
| R308 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R309 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R311 | 1-249-396-11 | CARBON | 18 | 5% | 1/4W | |
| R312 | 1-249-439-11 | CARBON | 68K | 5% | 1/4W | |
| R313 | ⚠ 1-212-944-00 | FUSIBLE | 2.7 | 5% | 1/2W | F |
| R314 | ⚠ 1-212-934-00 | FUSIBLE | 1 | 5% | 1/2W | F |
| R315 | ⚠ 1-212-934-00 | FUSIBLE | 1 | 5% | 1/2W | F |
| R316 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R317 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R701 | 1-249-433-11 | (RF BOARD)....CARBON | 100K | 5% | 1/4W | |
| R701 | 1-249-441-11 | (CD MAIN BOARD)...CARBON | 100K | 5% | 1/4W | |
| R702 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R703 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R704 | 1-249-397-11 | CARBON | 22 | 5% | 1/4W | |
| R705 | 1-249-396-00 | CARBON | 91 | 5% | 1/4W | |
| R711 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R712 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R713 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R714 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R715 | 1-247-883-00 | CARBON | 150K | 5% | 1/4W | |
| R716 | 1-249-439-11 | CARBON | 68K | 5% | 1/4W | |
| R717 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R718 | 1-215-479-00 | CARBON | 270K | 5% | 1/4W | |
| R719 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W | |
| R720 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R722 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W | |
| R723 | 1-215-484-00 | CARBON | 430K | 5% | 1/4W | |
| R724 | 1-247-849-00 | CARBON | 5.6K | 5% | 1/4W | |
| R725 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R726 | 1-215-493-00 | CARBON | 1M | 5% | 1/4W | |
| R727 | 1-215-452-00 | CARBON | 20K | 5% | 1/4W | |
| R728 | 1-215-446-00 | CARBON | 11K | 5% | 1/4W | |

ELECTRICAL PARTS

| Ref.No. | Part No. | Description | | | | |
|---|---|---|---|---|---|---|
| R729 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R730 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R731 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R733 | 1-215-493-00 | CARBON | 1M | 5% | 1/4W | |
| R735 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R736 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R737 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R738 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W | |
| R739 | 1-215-493-00 | CARBON | 1M | 5% | 1/4W | |
| R740 | 1-215-493-00 | CARBON | 1M | 5% | 1/4W | |
| R741 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W | |
| R742 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W | |
| R743 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R744 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R745 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R746 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R747 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R748 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R749 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R750 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R752 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W | |
| R753 | 1-249-385-11 | CARBON | 2.2 | 5% | 1/4W | |
| R754 | 1-249-385-11 | CARBON | 2.2 | 5% | 1/4W | |
| R755 | 1-249-385-11 | CARBON | 2.2 | 5% | 1/4W | |
| R756 | 1-249-385-11 | CARBON | 2.2 | 5% | 1/4W | |
| R757 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R758 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W | |
| R759 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W | |
| R760 | 1-215-456-00 | CARBON | 30K | 5% | 1/4W | |
| R761 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W | |
| R762 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W | |
| R763 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R767 | 1-249-410-11 | CARBON | 270 | 5% | 1/4W | |
| R768 | ⚠ 1-217-641-00 | FUSIBLE | 4.7 | 5% | 1/4W | F |
| R771 | 1-215-476-00 | METAL | 200K | 1% | 1/6W | |
| R772 | 1-215-431-00 | METAL | 2.7K | 1% | 1/6W | |
| R773 | 1-215-469-00 | METAL | 100K | 1% | 1/6W | |
| R774 | 1-215-469-00 | METAL | 100K | 1% | 1/6W | |
| R775 | 1-215-439-00 | METAL | 5.6K | 1% | 1/6W | |
| R776 | 1-215-439-00 | METAL | 5.6K | 1% | 1/6W | |
| R777 | 1-215-453-00 | METAL | 22K | 1% | 1/6W | |
| R778 | 1-215-453-00 | METAL | 22K | 1% | 1/6W | |
| R779 | 1-215-445-00 | METAL | 10K | 1% | 1/6W | |
| R780 | 1-215-445-00 | METAL | 10K | 1% | 1/6W | |
| R781 | 1-215-459-00 | METAL | 39K | 1% | 1/6W | |
| R782 | 1-215-459-00 | METAL | 39K | 1% | 1/6W | |
| R783 | 1-215-436-00 | METAL | 4.3K | 1% | 1/6W | |
| R784 | 1-215-436-00 | METAL | 4.3K | 1% | 1/6W | |
| R801 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W | |
| R802 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W | |
| R803 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W | |
| R804 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W | |
| R805 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W | |
| R806 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W | |
| R807 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W | |
| R808 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W | |
| R809 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

| Ref.No. | Part No. | Description | | | |
|---|---|---|---|---|---|
| R810 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R811 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R812 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R813 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R814 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R815 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R816 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R817 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| RV1 | 1-228-994-00 | RES, ADJ, CARBON 10K | | | |
| RV2 | 1-237-825-11 | RES, VAR, CARBON 100K | | | |
| RV301 | 1-237-476-11 | RES, VAR, SLIDE 50K/50K (100Hz) | | | |
| RV302 | 1-237-476-11 | RES, VAR, SLIDE 50K/50K (400Hz) | | | |
| RV303 | 1-237-476-11 | RES, VAR, SLIDE 50K/50K (1kHz) | | | |
| RV304 | 1-237-476-11 | RES, VAR, SLIDE 50K/50K (4kHz) | | | |
| RV305 | 1-237-476-11 | RES, VAR, SLIDE 50K/50K (10kHz) | | | |
| RV306 | 1-237-718-11 | RES, VAR, SLIDE 100K (BALANCE) | | | |
| RV307 | 1-237-468-11 | RES, VAR, SLIDE 50K/50K (VOLUME) | | | |
| RV701 | 1-237-481-11 | RES, ADJ, METAL GLAZE 22K | | | |
| RV702 | 1-237-482-11 | RES, ADJ, METAL GLAZE 47K | | | |
| RV703 | 1-228-991-00 | RES, ADJ, METAL GLAZE 2.2K | | | |
| RV704 | 1-228-995-00 | RES, ADJ, CARBON 20K | | | |
| RV705 | 1-228-995-00 | RES, ADJ, CARBON 20K | | | |
| RV706 | 1-228-994-00 | RES, ADJ, CARBON 10K | | | |
| S1 | 1-571-215-11 | SWITCH, SLIDE (BAND) | | | |
| S301 | 1-570-782-11 | SWITCH, SLIDE (RECODE/PLAYBACK) | | | |
| S302 | 1-571-080-11 | SWITCH, LEVER SLIDE (FUNCTION) | | | |
| S303 | 1-554-123-00 | SWITCH, SLIDE (ISS/FM MODE) | | | |
| S601 | 1-570-034-11 | SWITCH, LEAF (TAPE POWER) | | | |
| S602 | 1-554-618-00 | SWITCH, LEAF (MD PAUSE) | | | |
| S801 | 1-554-174-00 | SWITCH, KEY BOARD (⏮) | | | |
| S802 | 1-554-174-00 | SWITCH, KEY BOARD (◀◀) | | | |
| S803 | 1-554-174-00 | SWITCH, KEY BOARD (▶▶) | | | |
| S804 | 1-554-174-00 | SWITCH, KEY BOARD (▶▶⏭) | | | |
| S805 | 1-554-174-00 | SWITCH, KEY BOARD (REMAIN ENTER) | | | |
| S806 | 1-554-174-00 | SWITCH, KEY BOARD (REPEAT 1/ALL) | | | |
| S807 | 1-554-174-00 | SWITCH, KEY BOARD (SHUFFLE/RMS) | | | |
| S808 | 1-554-174-00 | SWITCH, KEY BOARD (■) | | | |
| S809 | 1-554-174-00 | SWITCH, KEY BOARD (▶/■■) | | | |
| S810 | 1-570-013-11 | SWITCH, LEAF (LOAD IN) | | | |
| S901 | 1-553-318-31 | SWITCH, PUSH (POWER)(1 KEY) | | | |
| SP901 | 1-529-030-21 | BUZZER | | | |
| SP902 | 1-503-816-11 | SPEAKER, WOOFER | | | |
| SP903 | 1-529-030-21 | BUZZER | | | |
| SP904 | 1-503-816-11 | SPEAKER, WOOFER | | | |

ELECTRICAL PARTS

| Ref.No. | Part No. | Description |
|---|---|---|
| T1 | 1-403-872-00 | I.F.T, FM CONVERTER (SMALL TYPE) |
| T2 | 1-236-064-11 | ENCAPSULATED COMPONENT |
| T3 | 1-404-630-11 | TRANSFORMER, IF |
| T4 | 1-406-253-11 | COIL (MW OSC) |
| T5 | 1-406-252-11 | COIL, OSC (SW1) |
| T6 | 1-406-251-11 | COIL (OSC) |
| T7 | 1-402-312-11 | COIL (ANT) |
| T8 | 1-402-311-11 | COIL (ANT) |
| T301 | 1-433-268-00 | TRANSFORMER, BIAS OSCILLATOR |
| T901 | ⚠1-449-052-11 | TRANSFORMER, POWER |
| XF701 | 1-567-737-11 | VIBRATOR, CRYSTAL |

ACCESSORY & PACKING MATERIAL

| Part No. | Description |
|---|---|
| ⚠1-555-234-00 | CORD, POWER |
| 3-769-154-11 | MANUAL, INSTRUCTION |
| 3-764-154-41 | MANUAL, INSTRUCTION |
| 4-920-937-01 | CUSHION (LOWER) |
| 4-920-938-01 | CUSHION (INNER) |
| 4-920-939-01 | CUSHION (UPPER) |
| 4-920-940-01 | SHEET (A), PROTECTION |
| 4-920-941-01 | SHEET (B), PROTECTION |
| 4-920-961-01 | INDIVIDUAL CARTON |

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

# TROUBLESHOOTING GUIDE

| | |
|---|---|
| **The unit does not operate.** | • The AC power cord is not connected (for AC operation).<br>• Incorrect polarity of batteries<br>• Weak batteries |
| **No audio** | • Slide the VOLUME control toward 10.<br>• Check the FUNCTION selector setting.<br>• The headphones are plugged in. |
| **No audio from one channel or unbalanced left and right volume** | • Adjust the BALANCE control. |

| **CD PLAYER OPERATION** | |
|---|---|
| **Disc play does not begin.** | • Insert the disc with the labeled surface facing outward.<br>• Dusty or defective disc<br>• Dirty or dusty lens<br>• The disc compartment lid is not closed.<br>• Moisture condensation<br>• When the CD operation buttons cannot be activated, turn off the unit and begin again.<br>• Improper setting of the FUNCTION selector |
| **Skipping of sound** | • Dusty or defective disc<br>• Dirty lens<br>• Strong vibrations |

| **CASSETTE-CORDER OPERATION** | |
|---|---|
| **Tape does not move.** | • The cassette is being inserted improperly.<br>• The tape is slack.<br>• The cassette compartment lid is not closed. |
| **The ● button cannot be activated.** | • No cassette in the cassette holder.<br>• The tab is removed from the cassette. |
| **Recording or playback cannot be made or there is a decrease in sound level.** | • Dirty heads<br>• Improper setting of the FUNCTION selector |
| **Unsatisfactory erasing** | • Dirty erase head |
| **Excessive wow or flutter, or sound drop-out** | • Contamination of the capstan or pinch roller<br>• Magnetic contamination of the head<br>• Weak batteries |

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**Sony Corporation**
**Audio Group**

**English**
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